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Cases of Obscure Pneumonia in Children, with Remarks. By J. Forsyth Meigs, M. D., Philadelphia.

(Read before the College of Physicians, Philadelphia, on Tuesday, Nov. 5th, 1850.)

I desire to call the attention of the College to a few cases illustrative of the difficulties which sometimes occur in the diagnosis of pneumonia in children. Inflammation of the lung is very easily recognized in early life, when it assumes, as it generally does, its frank and open form. When the rational symptoms of the disease, the cough, pain in the chest, rapid breathing, high fever and great thirst, are present in a marked degree, there is no difficulty in understanding that the patient is laboring under a pulmonary inflammation. The greater dryness of the cough in the beginning, the greater intensity of the pain, the higher grade of the fever, and the smaller amount of wheezing, as heard independently of auscultation, will almost always allow us to distinguish even between pneumonia and bronchitis, without a resort to the physical means of diagnosis. But when, on the

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contrary, the local symptoms are slightly marked, or almost null, and when, from some peculiarity of the individual, the chief symptoms in the case are such as would seem to indicate disease of some other system of the body, as the nervous or digestive, the diagnosis of the pulmonary inflammation becomes exceedingly difficult, and to one who either neglects or is unable to avail himself of the benefits of auscultation and percussion, impracticable. So obscure, indeed, in some instances, are the rational signs of pneumonia in children, and so prominent are those appearing to indicate disease of some other part of the body, that the attention is drawn away almost irresistibly from the real seat of mischief, and the true nature of the illness is misunderstood, until, from the further development of the case, the pulmonary symptoms grow into greater significance, or from the very darkness which hangs over the diagnosis, the physician resorts to a thorough physical examination, and so detects the existence of the pneumonia.

Now the causes which tend to embarrass the diagnosis of this inflammation in children may be referred, it seems to me, to two principal conditions: first, that in children the nervous system is so much more susceptible to the action of disturbing agents, and therefore so much more apt to suffer derangement of its functions in all states of disordered health, that the symptoms issuing out of this circumstance assume at that period of life much greater severity and prominence than at later periods. Second, that in children the physical signs of thoracic disease are much more obscure and uncertain than in adults, because of certain physiological and pathological differences which characterize the former age, and because of the obstacles presented by the general unwillingness, or even refusal of the child, unless constrained, to submit to the examination.

That the nervous system is especially subject to derangement in children is so trite an observation in medicine, that it scarcely needs any comment on my part. Nevertheless, I will recall to your memories the great frequency of spasmodic and convulsive disorders, and of organic diseases of the nervous system in early life. How frequently, moreover, do we see children presenting the most serious, nay, the most dangerous nervous symptoms, in

disorders which in adult patients would be regarded as trivial, or at least entirely destitute of danger. How common to meet with the most violent fever, with alarming jactitation, with irregular and tremulous muscular movements, with delirium, drowsiness, stupor, or coma, with terrifying convulsions, and even with fatal congestion of the brain or apoplexy, in cases of simple indigestion or of intestinal disorders, in the fever depending on simple angina, and at the onset or in the course of the different fevers and phlegmasiæ. These things happen daily. They are common in the experience of every man conversant with the diseases of infancy and childhood. Need we be surprised, therefore, to find this class of symptoms occurring frequently at the beginning, in the course, or at the termination of pneumonia, one of the most severe and dangerous inflammations to which the constitution is subject? And is it not easily to be understood, also, that, when such symptoms make their appearance in a marked form in the pneumonia of children, and especially when they occur at the onset of the disease, they must more or less confuse and embarrass the diagnosis. How can it be otherwise? A sick child has violent fever, drowsiness, stupor or delirium, sensibility to light, headache, vomiting, perhaps constipation; when partially aroused he is irritable and his movements are tremulous: he has few or none of the rational signs of pneumonia; little or no cough; no complaints of pain in the chest; on the contrary, he complains only of pain in the head; his respiration is more frequent than natural, but less so than in ordinary frank pneumonia;—how, I will ask, is one to escape from the idea that a child presenting these symptoms is laboring under some inflammation of the brain? It is most certainly an embarrassing and delicate point to judge upon.

But the diagnosis of pneumonia is rendered obscure and difficult in children, not only by the greater irregularities observed in the rational symptoms, but also by certain conditions which make the application of physical exploration in subjects of a tender age less useful than in those who have reached the period of maturity. Amongst these conditions the most prominent are the following: The thorax is naturally so much more resonant in early life as to afford a much less certain indication,

by dulness on percussion, of the presence in the thoracic cavity of conditions diminishing the amount of inspired air; or, in other words, the healthful sonoriety of the chest is so great as to permit of a certain degree of induration of the tissues of the lung, which yet shall not be appreciable to an ear of ordinary acuteness or cultivation, because there still remains an amount of sound on percussion sufficient to deceive the great majority of observers.

A second cause of difficulty, connected, like the last, with the physiological construction of the thorax, is the fact that the respiratory murmur in the child is much louder and stronger than in the adult; it is, in fact, puerile; it has somewhat of a blowing or bronchial sound, and therefore renders the detection of bronchial respiration, one of the most important signs of pneumonia, much less easy and positive than during the maturer periods of life.

In addition to these two causes connected with the physiological conditions of childhood, we have certain pathological states to increase the embarrassment under which we labor. The most important of these is, that pneumonia is so often double, as to make us lose very frequently the advantage of the comparison of the two sides; and unless care is observed, the physician is led into error, by falsely concluding from the fact of the two sides being equally sonorous, that the sound he elicits is natural; whereas, in truth, both sides are considerably duller than they ought to be. Again, from some cause, crepitant râle is much less to be depended upon in the child than in the adult; either because it is really absent, or because the ear is unable to detect it, owing to the child's refusing or being unable to distend the thorax sufficiently to cause the air to enter a sufficient number of the air-cells to produce this particular morbid sound.

Last, but not least, our means of diagnosis are still further restricted by the opposition which the child so often makes to the examination. Who has not been annoyed and tormented, and even foiled, when the case is an obscure one, and therefore requiring great delicacy of perception, by the patient's resisting with cries, and screams, and struggles, every attempt at a proper exploration? Or, if not foiled, how much more uncertain and

unsatisfactory are the results obtained under these circumstances, than they are in the instance of adult patients.

After these prefatory remarks upon the subject to which I have requested your attention, I shall proceed to relate the history of three cases that occurred in my own practice—cases which I hope will not weary, by their detail, the patience of the College, since they are strongly illustrative of the perplexing symptoms which sometimes accompany, and which tend to mask the pneumonia of children.

The first case is one in which the onset of the disease was so much like that of meningeal inflammation, as to render the diagnosis very difficult in its early stage. It is as follows: A fine, hearty boy, between six and seven years of age, born of very healthy parents, both of whom were living, had an attack of anginose scarlatina, of moderate severity, in the month of April. He recovered from this sickness without any difficulty, and resumed his attendance at school. On Wednesday, the 15th of May, he was seized with the symptoms of cold in the head, and had some fever, and a severe earache. On Thursday he was much better. On Friday he was rather imprudently taken out to ride, the weather being raw and disagreeable, and he consequently fell sick again on the evening of that day. The next day, Saturday, he had violent fever, much pain in both ears, severe frontal headache, and great sensibility to light when exposed to it. He was at the same time very drowsy, sleeping nearly the whole day; but could be roused when loudly and vehemently spoken to, so as to answer a few questions, and manifest great irritability. There was, in connection with these symptoms, frequent vomiting. The bowels had not been moved. There was no cough whatever. The respiration was slightly quickened. I suspected an attack of pneumonia, but could not detect it upon the most careful examination. I prescribed for him two grains of calomel in a dessert spoonful of castor oil, and a strong mustard foot bath.

On Sunday (2d day), the symptoms were much the same. The headache was very severe, and the only thing complained of. The sensibility to light continued excessive. There was frequent vomiting, the smallest quantity of water even, being generally

rejected at once. The bowels had been freely moved. There was no full cough, but he had given a short hack two or three times. The respiration was decidedly accelerated, rising to 35 or 40. The skin was hot and dry, and the pulse 130 in the minute, and at the same time rather hard, but perfectly regular. I still suspected pneumonia, but could not help feeling uneasy in regard to the brain, particularly as the most careful exploration failed to reveal any signs of pneumonia. I ordered iced lemonade and sweet spts. of nitre as the remedy, with cloths wet with cold water to the head, a mustard foot-bath twice a day, and a mustard poultice to the epigastrium.

Monday, (3d day.) No change, except that the respiration has risen to 45 in the minute, unattended, however, by any labor or difficulty whatever. He has coughed three or four times again. The cough is short and dry, and not painful. The pulse is 132, jerking. The vomiting continues with most distressing retching. The tongue is clean, moist, and disposed to be reddish. Auscultation to-day reveals well marked bronchial respiration before and behind, over the upper lobe of the right lung, but no râle whatever. Over the same region the percussion was dull. The prescription was leeching to four ounces over the right scapula; acetum opii, one drop every two hours; a mustard poultice over the front of the thorax, and a mustard foot-bath.

Tuesday, (4th day.) Better. Less fever. Less headache. Eyes not so sensitive to light. Vomiting has moderated, though it still recurs from time to time. To take the black drop occasionally.

Thursday, (6th day.) The fever has disappeared. The cough is much more frequent than before, and loose. Percussion over inflamed point less dull. The bronchial respiration is being replaced by vesicular murmur. Black drop at night; diet to consist of milk and bread, ice cream, etc.

Saturday, (8th day.) The patient is convalescent. He coughs but little, not more than half a dozen times a day, and then loosely. There is no fever. No vomiting for the last two days. Head clear. Tongue red, clean, moist. No appetite. No pain of any kind. Sleeps well and takes no medicine. The dulness on percussion is diminishing, though still very clearly

marked. Bronchial respiration much less distinct. To-day, for the first time, I can hear, just at the end of a long inspiration, which he now voluntarily takes for me, a very fine, but distinctly perceptible crepitant râle.

From this time he rapidly and entirely recovered.

Remarks.—This case appears to me a very interesting one from the obscurity which attended it at the onset. A healthy boy, between six and seven years old, who has had a slight cold in the head, with earache, but who has apparently recovered, is taken out to ride. On the evening of that day he falls sick again, and on the following day when I see him, I find him suffering with severe fever, violent headache and pain in both ears. He is at the same time exceedingly drowsy and inattentive, and when partially roused from this condition, complains bitterly of the light, and is very cross and irritable. He has no cough whatever, and, beyond slightly quickened breathing, no symptom of thoracic inflammation. He has frequent vomiting, rejecting nearly every thing that he takes, even to water. His bowels had not been moved within a day.

Now what was the nature of this attack? Was it meningitis? Scarcely tubercular meningitis, since the attack was so sudden, and the patient healthy, and descended of vigorous parents. Was it acute simple meningitis? This was more probable, especially if we adopt the idea of an extension of inflammation from the structures of the ear to the coverings of the brain. But there was no delirium whatever, which there would probably have been had meningeal inflammation gone far enough to have produced the drowsiness and sensibility which the child evinced. Moreover, the pulse was not over 130, and the skin not intensely hot, which would almost certainly have been the case had the attack been one of the kind I am supposing. Add to these considerations, those of the child's having had a cold, and just as he was recovering, having been exposed during a ride to a raw May wind. Explain his vomiting by the circumstance that he and all his brothers, of which there were several, inherited from their mother a strong disposition to that symptom in all their attacks of sickness, and I think there were reasons enough for hoping that the nervous symptoms, under which he labored, and which,

for the time being, were the only ones he presented, depended not upon cerebral disease, but were sympathetic merely with some local inflammation of another and distant organ, and what organ so likely to be the seat of the trouble, as the lung?

On the next day, when I heard that he had coughed several times, that the bowels had readily responded to medicine, and that his nervous symptoms had made no progress, which they ought to have done, had they depended on inflammation of the meninges, I felt still more convinced that the case must be one of pneumonia, though I could not as yet detect any signs of that disease by the most careful physical exploration. On the third day, however, the nature of the attack became clear and decided, for I detected dulness on percussion and bronchial respiration over the upper lobe of the right lung. There was no longer any doubt or obscurity, though the stupor, sensibility to light and vomiting, remained unabated.

I shall next detail the history of a case intended to show how serious and how conspicuous the nervous symptoms sometimes become in the latter stages of pneumonia. I select this case because it affords a very strong example of the extreme gravity which this class of symptoms occasionally presents at that period of the disease, and because also it shows how mistaken is the notion that severe cerebral symptoms occurring in the course of various local inflammations depend generally upon a transfer of diseased action to the brain: whereas, in fact, they are almost always merely sympathetic phenomena; or still more frequently, are occasioned by that state of the blood which comes at last to be produced by the imperfect performance of the hematosic function in diseases of the respiratory organs, or by the debilitating influence of long sickness, and insufficient supplies of food in diseases of other parts of the body. The case is as follows: On Thursday, the 21st November, I was requested to take charge of a child, who had been ill for seven days under the care of another physician. I was sent for because the original attendant had been obliged to leave town. I was told that the case was one of cold on the chest, in which the disease had left the chest to remove to the brain; that the child was entirely unconscious, excessively prostrated, and, in fact, supposed to be in a dying con-

dition. The parents hoped for nothing from medical treatment, but wished that everything might be done to satisfy their sense of responsibility.

The real history of the case prior to my first visit was this: The patient was a girl between two and three years old, of rather delicate appearance, though seldom sick, and the child of delicate parents, the father having been attacked since his daughter's illness with hæmoptysis followed by many phthisical symptoms. She was taken sick on the 29th of November with slight laryngitis, threatening croup. This was followed by mild catarrh, of which she convalesced on Monday, the 4th of December, under the care of the family physician. She remained well now until Tuesday, December the 12th, when she was again seized with cough and fever, and the physician was again sent for. This gentleman now attended her daily until Saturday the 16th, when he thought her better. During these five days she had cough, quick breathing and fever, and on Thursday morning some threatening brain symptoms, for which a blister was applied to the nucha. On Sunday, the sixth day of her sickness, she was dull and indifferent. On Monday she scarcely recognized her mother, and on Tuesday not at all. During all this time, and up to Thursday, Dec. 21st, the tenth day of the sickness, when I first saw the child, she had had no spontaneous vomiting, but had vomited several times after taking her medicine, which consisted of a calomel and tartar emetic mixture. She was not constipated, but had regular daily evacuations. The treatment had consisted at first in the use of a calomel and tartar emetic mixture, and afterwards of blue pill and rhubarb. A blister had been applied to the nucha as already stated.

At my first visit, on the 10th day of the sickness, I found the patient, in truth, in a most alarming condition. My notes give the symptoms as follows: The face is pale and even white, the eyes closed, and the expression dull and stolid. The lips are of a pale red tint, and dry and cracked. The child is very drowsy, indeed almost comatose. She can be roused with great difficulty only enough to glance around languidly and heavily at my watch, for a moment, and then immediately relapses into coma. The eyes are dull and dim, and there are many incrustations

about the lids. She neither speaks nor attempts to speak; she recognizes no one, and has neither asked nor made any sign indicative of a wish of any kind. There is no appetite, and no thirst. The pulse is frequent, small, and feeble, and the hands and feet cold, requiring bottles of hot water to maintain any warmth in them. The head and throat are slightly warmer than natural, but not hot. The respiration is 52, short and noiseless, except that a fine wheezing can be heard when the ear is approached near to the chest. There is very little cough—it is short, slight, and rather loose. Auscultation reveals subcrepitant râle over both sides behind. Percussion affords nothing very decided.

I ordered a mixture consisting of six grains of carbonate of ammonia and twelve of quinine in three ounces of vehicle, of which a tea-spoonful was to be given every two hours. A dessert-spoonful of wine whey was to be given every two hours also, and a table-spoonful of chicken tea occasionally. A blister an inch and a half square was applied to the calf of each leg, to be removed at the end of an hour and a half or two hours; and bottles of hot water were kept in contact with the feet, and laid along the sides of the body.

11*th day*.—No very decided change, except that the extremities are somewhat warmer, the pulse a little fuller, and the patient rather more easily roused from her state of insensibility. The remedies to be continued, and a cathartic enema to be administered to open the bowels, which have not been moved.

12*th day*.—Injection operated once last evening. Bowels opened again this morning. Stools natural. Temperature good. Rather more color in the face. Patient more intelligent, and much more easy to be roused; observes her mother and recognizes her for the first time, but makes no attempt to speak. She is very weak, trembling very much on the least attempt at motion. Pulse fuller and stronger. Respiration easy. Takes her food readily. Continue treatment.

13*th day*.—Decidedly better. Is now wide awake, with a natural and intelligent expression of countenance. Face much less pale; lips well colored, and less dry: eyes less dull; evidently recognizes those around her, though she does not attempt

to speak as yet. Whole surface warm and dryish, and the hands rather hot indeed. Pulse 120, fuller, and stronger, though still small. Respiration 60, not quite regular, short but without any labour. Cough much more frequent than before and stronger. It occurs sometimes in spells, and is disposed to be loose, though still rather hard. No vomiting. Bowels opened twice since last night; the dejection being natural, but rather free. Takes her food very well. Not very thirsty. The abdomen is somewhat full, but soft and supple; some tympany. The patient picks her nose and lips a great deal, and on the 9th and 10th days picked the skin over the neck and upper part of the sternum so much as to produce angry looking pimples and excoriations. Auscultation reveals to-day vesicular murmur, rather feeble, over the front of the thorax, vesicular murmur over the upper part of the chest behind, and fine subcrepitant râle with bronchial respiration both in inspiration and expiration, over the lower half of both sides behind. Percussion is somewhat dull over the lower part of the dorsal region, and is rather less clear on the right than on the left side.

The carb. amm. and quinine mixture is to be suspended, and a teaspoonful of a mixture consisting of four grains of iodide of potassium in half an ounce of sarsaparilla syrup, and an ounce and a half of water, is to be given every three hours; wine whey to be continued. Diet to consist of chicken tea, and milk and water. One grain of Dover's powder, to be administered every evening.

On the 14th day the child cried loudly and obstinately for the first time, and for the first time in many days, shed tears. The pulse was 124, of good volume, soft, and regular. The breathing was 70, high, regular, and without effort. Skin warmer than natural, and dry; tongue moist, and covered with dark brown fur.

On the 16th day, I found her slowly improving in strength. She now remains awake the greater part of the day, and is much amused with her toys; the appetite is moderate, and the thirst not too great; the cough is more frequent, occurs in spells, and is rather hard. Has had no natural stool to-day; the pulse is between 120 and 130, rather small and feeble; the breathing

is 50, still high, but not labored. The respiratory sound is feeble, and attended with some expiratory blowing, and a fine rare subcrepitant râle over the lower half of both lungs behind; percussion over same regions is slightly duller than natural, and a little more so on the right than on the left side. Tongue clean and moist; lips dryish, and much picked at by the child; abdomen natural; soft. Sleeps well at night with the Dover's powder.

The mixture of Iod. potass. to be continued; milk punch to be be given in the dose of a tablespoonful every three hours. Ice cream, rice gruel, and a little chicken for diet. The grain of Dover's powder to be given at night.

From this time the patient continued to go on very favourably in every respect, so that on the 21st day of the illness, the pulse had fallen to 95, and the respiration to 35; whilst the strength was rapidly improving, and the cough had become much less frequent and looser. The bowels were regular; there was no diar. rhœa. The appetite was increasing, the thirst had disappeared, and the spirits had become much more cheerful and pleasant.

The Iod. potass. was suspended on the 18th day, and a little syrup of ipecacuanha and sweet spirits of nitre substituted; a few drops of brandy were given several times a day in the place of the milk punch.

On the 24th day, the patient was entirely convalescent, as she was gaining flesh, and was able to sit up and amuse herself.

Remarks. When I was called to see this case, it was supposed by the family, who were guided by the opinion of the first physician, to be one of disease of the brain, and on that ground was thought to be desperate beyond hope. The opinion of the first practitioner was clearly indicated likewise, by his having applied a blister to the nucha on the third day of the attack, in consequence, it was stated, of some threatening brain symptoms. Upon first seeing the patient indeed, and noticing the extreme stupor, amounting very nearly to perfect coma, I was for a time apprehensive that the case was in reality one of those fatal affections of the great nervous centre, which so rarely yield to the art of

the physician. As soon, however, as the history of the case had been fully detailed, I was led to form another opinion in regard to its nature, and one, too, which allowed me to hope that it might yet be turned from the dangerous direction which it had assumed. In fact, the onset of the attack was evidently that of a pulmonary inflammation, and not of cerebral disease. The cough, the quickened respiration, the absence of spontaneous vomiting of marked constipation and of delirium, all looked unlike the approach of meningitis;—and when, in addition to these circumstances, I found that there still remained some glimmering of intelligence, that there had been no spasmodic phenomena, that there was neither dilatation of the pupils, nor irregularity in the direction of the eyes, and that a proper examination of the rational and physical respiratory symptoms, shewed clearly that the child was affected with an extensive catarrho-pneumonia, I had no hesitation in believing that the real disease was inflammation of the bronchia, and of the parenchyma of the lungs, and that the dangerous nervous symptoms which had created so much alarm and even hopelessness, were not primary phenomena, and therefore almost necessarily fatal, but merely secondary or consequential, and for that reason, very much less to be dreaded. Guided by this view of the case, I determined to sustain, and, if possible, to revive the sunken forces of the patient, and by thus gaining time, and restoring to the circulatory and nervous functions, some degree of energy, I hoped that nature might yet be able to carry on the changes necessary in the diseased structures, to restore to them their healthful condition. Effectually, after a few days, I had the great satisfaction to behold my efforts crowned with success. As the pulse became fuller and more active, as the diminished calorific power became invigorated, and as the digestive and absorbing functions grew stronger and more capable of fulfilling their offices, I could perceive that the respiration was augmented in frequency and power, that the cough became more frequent and looser, and that the lungs were gradually and surely relieved of the products of inflammation, which had previously been obstructing and impeding those changes in the blood, which are so essential to the due extrication of the life forces.

I shall now proceed to the history of the last case by which I aim to call the attention of the College to the point I am endeavoring to elucidate; to wit, some of the conditions which so often complicate and obscure the diagnosis of pneumonia in children.

Should I succeed, by my remarks upon this subject, in throwing some light upon a difficult point in practice, or in drawing out from the older and more experienced members of the College, a portion of their accumulated share of experience, I shall not deem the time so boldly occupied by myself this evening, to be wholly misspent.

The subject of the case was a boy between 4 and 5 years of age, of healthy and robust appearance, and born of parents of good, though not vigorous health. This child was seized suddenly, six weeks after an attack of measles, of which he had apparently entirely recovered, with violent fever, great restlessness and distress, vomiting, and distension of the abdomen. When I first saw the patient, these were the only marked symptoms he exhibited. There was nothing to call my attention particularly to the thorax, and I was led to suppose that the fever depended on some gastro-intestinal disorder, from improper eating. A dose of castor oil was administered, to be followed by sweet spirits of nitre, and a warm bath was ordered. On the second day he was much worse. The fever was very high, the skin being hot and dry, and the pulse 160 in the minute by the watch, and jerking. He was now very drowsy and heavy, it being almost impossible to obtain any answers from him, and when obtained they were confused and unintelligible. When disturbed by the examination, his movements were tremulous and uncertain. The tongue was dryish, and very thickly coated. He complained confusedly of pain in the abdomen, which was still distended and sonorous on percussion. There was no sign of respiratory disease, except some quickening of the breathing, and a very slight cough, scarcely to be noticed. I began to suspect that the attack was one of scarlatina, from the extreme quickness of the pulse, which continued at 160 in the minute, from the drowsiness, and from the tremulous, almost spasmodic character, of the muscular movements. Fortunately, however, I was induced, by the obscure character of the symptoms, the increased frequency of the breathing, and the occasional occur-

rence of a slight cough, to auscultate and percuss the chest. This I was enabled to do only very hastily, and with much difficulty, owing to the boy's unwillingness to submit to the necessary position. I found that the respiration was feeble and obscure over the lower part of the left side behind, and that the percussion was dull over that region. This determined me at once as to the real nature of the sickness. It was pneumonia. I bled him immediately to five ounces from the arm, which I had feared to do before, lest the attack might be one of scarlet fever. Two hours after the bleeding, the pulse had fallen to 140 from 160, which it had been before. The heat of the skin was very considerably diminished soon after the abstraction of blood, and the patient passed a quiet night. The internal remedy consisted of very small doses (30th of a grain) of tartar emetic, with sweet spirits of nitre, every two hours. On the following day, the third, he was much better; the drowsiness and disposition to coma having passed away, the movements become steady, and the heat of skin much reduced. On the fourth day he was out of danger. As the case went on, the signs of pneumonia became unequivocal. The blood drawn on the second day presented a firm, small coagulum, covered with an abundant buffy coat. The recovery took place in the ordinary time, and was perfect.

Remarks.—This case was rendered obscure by the facts that the nervous and abdominal symptoms were so severe and prominent as to mask almost entirely the thoracic symptoms. The pulmonary symptoms were indeed not only concealed by the superior and unusual conspicuousness of the nervous and abdominal phenomena, but they were themselves much less marked than in ordinary attacks of pneumonia. It may seem a very easy task to any one who has heard the above case detailed, to have made the diagnosis of pneumonia. But let him who so thinks, imagine a boy between 4 and 5 years old, of nervous and vehement disposition, somewhat spoiled in temper withal, to be taken sick suddenly, with violent fever, pain in the abdomen, flatulent distension of the bowels, so little cough as not to be noticed by the attendants, no evident labor of breathing, heavily coated tongue, and strong disposition to drowsiness. Suppose the child to be still worse on the following day, with a pulse at 160; with stupor, amounting almost to coma; tremulous and

uncertain movements; confused complaints of pain in the stomach; distension of the abdomen; a cough, so slight as to be recollected by the attendants only after the strictest examination; no labor of respiration, but merely such an acceleration of its rate as would almost infallibly accompany a pulse of 160: suppose, too, that all this occurs during a season when scarlet fever is prevailing epidemically, and I will ask any one here present, whether the symptoms were not such as might readily lead the mind to suspect an attack either of scarlatina, or, if the abdominal symptoms were chiefly considered, of typhoid fever, rather than one of pneumonia? In fact, I was assisted in the case by a most acute and experienced practitioner, and he was even more disposed than myself, to conclude that the attack was a scarlatinous one, in which the eruption had failed to make its appearance. Fortunately, as has already been said, I was induced, after finding out by minute inquiries of the attendants, that the patient had coughed a few times, to examine the chest; and though the examination was necessarily rapid and imperfect, the result was such as to convince me that the disease was a latent pneumonia. The bleeding and tartar emetic, which were employed as a consequence of this discovery, exerted a most satisfactory influence upon the symptoms, and the child was very soon out of all danger.

I regret, gentlemen, that the details of the case last read to you are so meagre and imperfect, but I give them from my notebook as they were written down under a press of occupation. I can safely, however, make the assertion that they are correct as far as they go; and I have not been deterred, therefore, by the want of greater copiousness of detail, from offering the case to the College as an example of the obscurity which sometimes occurs in the diagnosis of pneumonia in children. I will take this occasion to remark, moreover, even at the risk of wearying your patience, that it has often seemed to me that the dread of not being able to describe a case with all the elaboration and minuteness of finish which is the fashion of the day, has probably prevented not a few of our profession, who are busily engaged in private practice, from attempting a record of the cases which come under their observation; and that the consequence of this may be that many important facts are thus lost

to the profession. And yet, surely, a short and even imperfect sketch of a case, written down at the moment of its occurrence, is worth more than a mere recollection, and especially than no record whatever, either memorial or written. If, indeed, a practitioner who has had any considerable share of private business, waits to take notes of his cases, until he can do so with the detail and accuracy of a Louis or an Andral, he would, I suspect, leave but few mementos of his labors. Far be it from me to undervalue the exact and rigorous method of observation insisted upon by the great men of the modern school of medicine,—a method which has given to our science its most useful and durable monuments.

But, let us not, in our admiration of the complete and perfect works of our masters in medicine, contemn the efforts of more modest and humble laborers, since, after all, it is only by slow and patient progression through successive degrees of excellence, that man ever attains that exquisite finish which renders the arts and sciences in their consummated perfection, so attractive to all the finer parts of our nature.

Case of Gun Shot Wound,—Death. Reported by WILLIAM HUNT, M. D., Resident Surgeon of the Pennsylvania Hospital.

John Farley, aged 11. Was admitted into the Pennsylvania Hospital on the evening of April 18th, 1850. The person who brought him stated that he was shot through the hand, during a firemen's riot in Moyamensing. Such was found to be the case; a ball had passed through the left hand, between the heads of the first and second metacarpal bones: but the constitutional symptoms were so severe, that this wound alone was not sufficient to account for them; he was cold, exceedingly prostrate, and alarmed, and had a quick and almost imperceptible pulse. On further examination it was found that he was also shot through the left shoulder, the ball having fractured the head of the humerus and opened the joint. The ball could not be felt by the probe, which might have readily been passed into the wound further than was considered prudent. The patient was placed in bed, a piece of dry lint was applied to the wound, heaters

were put to the feet, and sinapisms were ordered to the stomach and extremities; small quantities of wine and water were given at short intervals.

On uncovering the boy, to apply the mustard, it was noticed that the penis was gradually assuming the state of priapism, which soon became complete; this was followed by perfect paralysis of the lower extremities, both of sensation and motion.

These symptoms induced a close inspection of the back; nothing could be seen or felt of a foreign body, nor was there any other external wound than those mentioned. There was no paralysis of the upper extremities. The diagnosis, founded on these facts, was, that the ball had passed through the shoulder into the thorax, and had then travelled along its posterior parietes as far as the vertebral column, which was fractured at a point below where the brachial nerves are given off: the prognosis of course was fatal.

Carbonate of ammonia and brandy were given, in small doses, every half hour, until three doses were taken.

11 o'clock, P. M. Saw patient, with Dr. Peace. Symptoms not improved. Again examined the back and shoulders closely, but could detect nothing.

Quarter to 12. Little warmer; pulse still very feeble, not to be counted. On auscultation, found respiration very quick and loud, and a distinct friction sound was heard on the left side; paralysis and priapism continue. The patient is, and has been, perfectly conscious; complains none of pain, excepting when the wounded arm is disturbed.

1 o'clock. Warmer; pulse fuller; has passed a small quantity of blood from the mouth; some tendency to delirium. Expressed a desire to pass his water; a small catheter was introduced into the bladder, very little urine followed; paralysis and priapism continue, although latter not so perfect as before. Directed the patient to be kept quiet, and to take a small quantity of wine and water two or three times during the night.

16th, 7 A. M. Skin hot; tongue furred; respiration hurried and feeble; pulse full, very quick; paralysis and priapism as before; consciousness perfect.

9 o'clock. Skin hot; pulse 130; respiration 40, is feeble on the left side; cardiac sounds heard more distinctly to the right of sternum; no pain; drew off a small quantity of water by

catheter. At 10, ordered an injection of oleum ricini, f.ʒi., with molasses and water, Oss.

5 P. M. Complains of some pain in the breast, none in wound; drew half a pint of water from the bladder, high colored; bowels had been opened by the injection.

At 7. The abdomen was very tympanitic. ℞. Oleum Terebinth. f.ʒij., aquæ Oss., inject.

17th. Has had a restless night, been somewhat delirious; paralysis and priapism continue; abdomen less tense since the injection; pulse 130; tongue moist. Complains only of pain over front of chest; respiration labored; had five dry cups applied over chest, with some relief; obliged to draw off his urine twice daily; wound discharges very little; no swelling about the shoulder.

18th. Better, as regards respiration; pulse 120; urine plentifully secreted; bowels opened by injections; other symptoms the same.

19th. Better; pulse 112; tongue moist, slightly coated; respiration easier; secretion of urine very copious; obliged to introduce catheter four or five times daily; the penis is more rigid when the bladder is full. The patient never expresses a desire to urinate when alone, but he has frequently wished to do so while the water was flowing in a full stream from the instrument, of which he appears to be wholly unconscious.

3 P. M. Weaker; pulse very feeble, 120. Gave f.ʒss. of wine whey every two hours; this, at 8 o'clock, appears to have made him stronger; he ate a piece of toast with appetite, and was quite lively.

20th. Weaker; pulse 120; has involuntary discharges from the rectum. The urine is now loaded with a ropy mucus, and gives out a strong ammoniacal odor; not so plenty as before. Wound in shoulder discharges a light sanious liquid; no abatement in the priapism or paralysis.

21st. Continues as yesterday in every respect, but as to the urine, which now dribbles from him involuntarily.

22d. About the same. No pus is discharged from the wound; pulse 140.

23d, A. M. Pulse 120; says he feels well; priapism appears to have somewhat abated. P. M. Much worse; abdomen very

tumid; priapism again perfect; urine still dribbles; pulse 166; respiration 50; tongue moist and furred; wound discharges but little of a light sanious liquid. ℞. Oleum Terebinth. f.ʒi, aquæ Oss. inject.

24th. Better; bowels had been opened; pulse 140; tongue clean, moist; appetite good; no swelling about the shoulder.

25th. Has remained all day without change; examined the back this morning. There is much more protuberance of the left inferior part of the thorax than the right; percussion dull, and respiration heard very indistinctly on that side.

26th. Much edema of prepuce; priapism still perfect; otherwise the same.

27th. The edema of prepuce is so great as to produce paraphymosis; this cannot be reduced, on account of the erect state of the penis. It was freely punctured, and the swelling was much diminished by night; there is no sensation in the organ.

28th. Same.

On the first of May the writer was obliged to leave the Hospital on account of sickness. The patient remained about the same until the 3d, when he sank rapidly, and died in the evening; the priapism continued until the day of his death. Consciousness remained perfect.

The post mortem examination (of which the writer is unable to obtain any full notes) showed that the ball had passed through the shoulder, producing a compound comminuted fracture of the humerus, just below its head, and had opened the joint; it then entered the thorax between the 2d and 3d ribs, and passed obliquely downwards through the pleura and posterior part of the lung, then through the body of the 5th or 6th dorsal vertebre, which was fractured completely through. The ball was found lodged in the spinal canal, at a point corresponding to the fracture.

The spinal marrow was softened, to a considerable extent, above and below the wound. The left lung was hepatised, and there was a large effusion of pus and bloody serum into the pleural cavity.

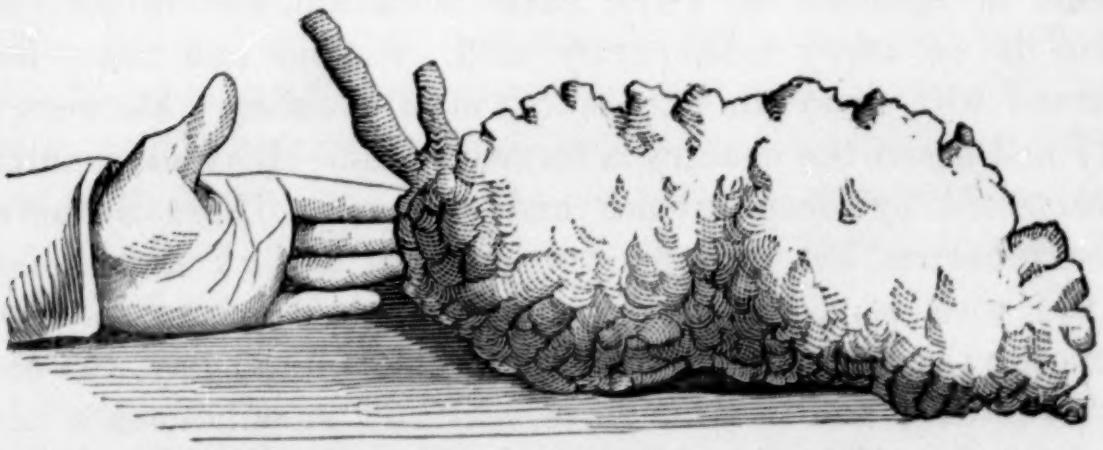
Remarks on California. By G. R. B. Horner, M. D., U. S. N., late Fleet Surgeon, Pacific Squadron.

Though many letters have been written concerning the above country, but few have contained medical information—and this has come mostly from unprofessional sources. The letters written have been generally about the gold mines, and have imparted little knowledge respecting the climate, productions of the soil, or other subjects calculated to interest a physician or other persons wishing for information, special or general. I shall then endeavor to present such as I was able to collect during my sojourn there, which was from August, 1849, to the middle of last July. More than half that period was passed at Benicia, and a greater part of the remainder at, and in the vicinity, of St. Francisco. A short time was spent in travelling to the northern mining region. My public duties in our squadron, the great difficulty in procuring means of conveyance from many points to others, and the enormous expense attending it, prevented me from making as minute or general observations upon the country as I desired. Such, however, as seem worthy of it, I will now make known.

On entering the bay of St. Francisco, the most conspicuous points of land are the Paps, Table Mountain, and ridges encircling it on every side, partly clad in pines and oaks, interspersed with some other trees, but mostly bushes. Between the city and ocean the country is formed of sand-hills and mountains, intersected by deep ravines and valleys. The soil there is mostly barren, but in some portions has a dark mould, intermixed with clay, and is productive, when carefully cultivated. Opposite the city, and on the eastern side of the bay, the country is fertile; and in some parts hilly and mountainous a short distance from the water. At the back of the ridge near it, may be seen the top of the Devil's mountain, the highest one in that portion of the country. It rises nearly four thousand feet above the ocean, and is one of the best land marks for vessels plying up and down the bay, and the two great rivers, discharging into the most eastern part of it, termed the bay of Suison. These rivers are the Sacramento and St. Joaquim. The first runs nearly south, the second to the north.

Both derive their chief sources from the western face of the Sierra Nevada, overflow their banks, and are bordered by an exceedingly rich, alluvial soil. The banks of the Sacramento, I found in July, when the water was of medium depth, not more than twenty feet above it on either side, and covered almost without interruption, for ninety miles above its mouth, with a dense growth of cotton wood, oaks, willows, sycamores, and bushes. Back of the woods are plains of great extent, which are inundated in winter. Marshes, called tulas, exist in certain parts, and form islands of great extent, where the two rivers disembogue. North and south of that portion of the bay designated the straits of Karquines, which lie between the bay of Suison and St. Paul's, or the north-western part of that of St. Francisco, the country is formed of lofty, rounded hills. Those on the northern side are clad with a luxuriant crop of wild oats during the spring and summer, and those on the southern side are covered with them, and a scattered growth of low wide-spreading horse-chesnuts and oaks, mingled with some elders and sycamores on the low grounds and along the banks of streams. Fennel, a bulbous plant, used for washing, a very large tuberous root, (fig. 1) belonging to a vine called wild cucumber, like

Fig. 1.



a sweet potatoe, the endive, wild artichoke, and a multitude of flowers, are likewise productions. Of the oaks there are several kinds, the most remarkable of which are those bearing an acorn two or more inches long, and a dwarf oak noted for its exceedingly poisonous effects. By contact, and it is believed, in certain cases, by merely allowing the effluvia from it to touch the skin, these effects are produced. I saw an officer of our squadron with his face so swelled that he could hardly see, and yet I understood

from him he had not touched the plant, and could have been poisoned only by lying upon the ground where it was growing. This oak is a very small bush, bearing a reddish, somewhat serrate, and oval leaf, quite as large as those of the other oaks. Their foliage is very deficient, the nerves of every leaf end in points, forming quite sharp prickles, which are undoubtedly owing to the great drought of every year, parching the leaves, and taking away all moisture from the ground. So completely dried is the soil, that on hills, in plains and valleys, it cracks in every direction for one or more inches in width, and several feet in depth. The richer the soil, the more thoroughly it has been soaked by the rains of fall and winter, the more it bakes and fissures. When this begins to occur, grass, wild oats, and flowers begin to wither, and by July have changed their rich color to a pale yellow. Springs then become dry, brooks and rivulets disappear, and fires begin to sweep over the prairies and tulas, borne on the strong westerly breezes, which prevail from spring until late in the fall. When these cease, the easterly and northerly begin to blow, and continue at intervals until spring. When the wind is north-easterly the weather is serene and delightful, and it blows moderately, but when it becomes south-easterly and south-westerly it is squally, often violent, and accompanied with a deluge of rain. As this falls, vegetation revives, grass and oats spring forth, and flowers begin to enamel the fields. Even in the dead of winter they flourish on hills and plains, and during the last it was a singular sight to see the former clothed with the richest verdure and capped twice by resplendent snow. As vegetation thrives, the innumerable bands of cattle fatten, elk, deer, and antelopes quit the low grounds and range freely over the hills, the prairie wolf or kiote gluts himself more luxuriously on sheep and other small animals, and the grisly bear, the greatest terror of the country, has a choice of flesh or vegetables. Esculent fruits of every kind are rare. Scarcely one is to be found at any season, and a few peaches, apples, grapes, oranges from foreign regions, and wild berries, were all I saw. Vegetables for culinary purposes were principally imported: potatoes, Irish and sweet, pumpkins and onions were sold at enormous prices. At twenty cents a pound the former were cheap, and at Marysville, near the upper mines, the latter were

sold for $1.25. These prices were owing mainly to the great majority of persons being employed in the gold mines. A few attempted cultivation, and were quite successful when irrigation was used, but from a want of a proper knowledge of the seasons, and neglecting to seed soon after the rains began, most persons were only partially successful. The farmers had likewise to contend with the swarms of grasshoppers infesting the country, and I heard of one garden, on the straits mentioned, being desolated by these insects within a few hours. They will continue to be destructive to gardens and farms until some method of destroying them is discovered. But they are not useless; they are killed, dried, and eaten by the Indians. Of this fact I was informed by several credible persons, and by one of the overland emigrants, who had found vast quantities in some of their huts. Acorns, and the kernel of a very large pine cone, are said also to be used for food by them.

For more definite remarks on the climate I refer to the following abstract of a register kept strictly by myself. I regret that the register is too large and minute to insert in this journal, but the abstract will serve to give a general knowledge of the climate.

1849	Thermometer	Barometer.	Hygrometer.	Wind.	Rainy days.	General Remarks.
August.						
Average.	59.	30.04	30⅓	West-	0	Ship off San Francisco. The register includes only eight days in California, or those after she made the coast on the 24th of August. All of them were misty.
Maximum.	63	30.10	34	erly.		
Minimum.	55	29.89	26			
September.						
Average.	57⅔	30.09¾	26	20 Sy.	0	In September 20 misty and cloudy days, and 10 fair. Anemometer 3 seconds.
Maximum.	67	30.20	34	4 Ny.		
Minimum.	61	29.94	20	6 var.		
October.						
Average.	62⅔	30.06	25¼	11 Ny.	1	Fair eight days. Heavy constant rains on the 10th 22 days misty, cloudy and variable. Anemometer as high as 3 seconds and as low as 14.
Maximum.	73	30.25	32	17 Sy.		
Minimum.	52½	29.85	16	4 var.		

1849	Thermometer	Barometer.	Hygrometer.	Wind.	Rainy days.	General Remarks.
November.						
Average.	54	30.08	24	12 Ny.	10	Ship at Saucelito, 5 miles from city. Six fair days, 14 misty. Anemometer variable from 3 to 10 seconds. Calm sometimes.
Maximum.	65	30.35	30	17 Sy.		
Minimum.	52	29.55	16	16 var.		
December.						Snow fell on the 3d and covered the adjacent mountains. Seven fair days, 25 rainy, misty, and variable. Hail fell on the 14th. Storm on 3 distinct days, thunder and lightning on one. Anemometer 4 seconds during them.
Average.	50½	30.04½	22⅞	10 Ny.	12	
Maximum.	57	30.30	30	14 Sy.		
Minimum.	40	29.55	16	7 var.		
1850 Jan						Only 5 fair days, 26 misty, cloudy, and rainy. Ship went up to Benicia, 30 miles above St. Francisco, and remained there until after I left her for home. Anem. 3 seconds on the 9th.
Average.	50	30.04⅜	22⅜	7 Ny.	15	
Maximum.	62	30.25	27	15 Sy.		
Minimum.	40	29.85	19	9 var.		
February.						No rain fell until the 21st, we then had it for 4 days at intervals. On the 27th snow fell and covered the hills, but melted in a day or two. The Devil's and other mountains remained covered with it for weeks. During a squall the anemometer was 3 seconds, generally was much less.
Average.	48½	30.13¼	22¼	8 Ny.	4	
Maximum.	57	30.36	26	26 Sy.		
Minimum.	40	29.55	19	5 var.		
March.						Rain fell in light showers. Wind squally, but not violent at other times. Anemometer 4 to 14 seconds.
Average.	56⅜	30.10⅛	24⅜	10 Ny.	8	
Maximum.	72	30.35	33	11 Sy.		
Minimum.	40	29.75	19	10 var.		
April.						Rain fell last on the 19th, and in light showers. Eighteen days were fair and pleasant. Highest range of anemometer 4.
Average.	56	30.09½	26⅜	10 W.	3	
Maximum.	71	30.25	34	9 N W		
Minimum.	47	29.95	18	8 S.		

1850	Ther. mometer	Barome- ter.	Hygro- meter.	Wind.	Rainy days.	General Remarks.
May.						
Average.	61¼	30.01	26⅜	9 S W	0	Twenty-five days fair. A halo about the sun on the 10th, slight mist for several days. Anemom- eter ranged from 4 to 20 seconds.
Maximum.	71	30.14	34	10 NW		
Minimum.	52	29.85	23	12 W.		
June.						
Average.	62	30.00½	26½	12 S W	0	Twenty seven days were fair, but a few were slightly misty. Wind moderate. Anemometer not above 4 and as low as 20 seconds.
Maximum.	76	30.19	29	9 W.		
Minimum.	54	29.85	22	9 N W.		

On the first of July I left the ship for the mines, and could not keep the register with regularity, but I will state that the weather was excessively hot at them, and so cold and damp at St. Francisco, that fire was indispensable for comfort. On the 13th, at 8 o'clock, P. M., Fah.'s thermometer stood at 52° in the latter place, and at Long Bar, upon the 4th of July, it stood in the afternoon at 106°. In Marysville, twenty miles below, and at the junction of the Yuba with Feather river, the heat was 112°. This was accompanied by a corresponding dryness of the air and earth, except on the low grounds near the former river.

In making observations on the force of the wind, the Anemometer or ventometer used was one of my own contrivance, caused by the want of any other instrument of the kind during our long passage around Cape Horn. My instrument consists of a wind-mill wheel fixed in the middle of an axle, beneath the back part of which is placed a reel for a silk line thirty feet long. The axle of each turns on pivots, and during the revolutions of the wheel the line is transferred from the reel to the axle. When this has been done the line is restored to its place by means of a wince connected with the axle of the reel, and taken off at the time of experimenting. The above anemometer I found very sensitive to the lightest winds, and it enabled me very accurately to determine their relative force, but for this purpose I used sometimes another instrument formed of a wheel and axle, similar to that of the first one, and having two cog wheels connected with a face like that of a clock, and fixed in front of a

house-like box. The smaller cog wheel has four teeth, the largest sixty-four. This has the hand of the face attached to the outer end of its axle. The hand indicates the number of revolutions of the wind-wheel in any given time, and the precise number may be ascertained by multiplying their number by four, the number of the teeth to the smaller cog wheel affixed to the posterior end of the axle to the above wheel.

As winter approaches, rain falls and vegetation revives, game becomes more abundant, wild ducks and geese flock in vast numbers upon the ponds, inlets, bays, rivers and creeks. Among other birds found at that season, and during the whole year, are snipe, curlews, cranes, bitterns, buzzards, crows, avosets, grebes, pelicans, cormorants, top-knotted partridges, magpies, and sparrows. The chief birds of prey are hawks, the condor, owls, and white headed eagles, which may be seen flying over the Sacramento in quest of prey, or quietly perched on the tops of the adjacent trees. At all seasons an abundance of fish may be procured by hauling a seine in various parts of the bay of St. Francisco. The fish commonly caught are sprats, perch, mullets, eels, trout, crabs, and sturgeons of fine esculent qualities. Well cooked, their flesh is white, tender, and very savory. In some parts excellent salmon are caught plentifully, and when the Californians can turn their attention from the search after gold, to that of their bays and rivers, no doubt can exist that they will yield as many fish as they can consume.

Of the mineral productions of the country my limited opportunities of research will not allow of my speaking at large; and I will merely remark, that besides all attractive gold, it yields iron ore, cinnabar, jasper, carbonate of magnesia, lime and various petrifactions. Near Benicia a yellowish, soft sand stone exists in immense quantities. It is well adapted for buildings, and notwithstanding the high wages of workmen, is now used by them for their foundations. Some miles northward of the town are several sulphur springs. They arise at the foot of Red mountain, are copious, and already resorted to by invalids. In the waters of one of the springs, I found, on analysis, some magnesia, and a large amount of the muriate of soda—besides the sulphur—and sulphuretted hydrogen, which was constantly bubbling up from the bottom.

(To be concluded in our next.)

CLINICAL REPORTS.

Summary of the course of Demonstrative Surgery in the University of Pennsylvania, from October 9th to December 12th.

The lectures given under the above title at the University of Pennsylvania are so designated, in order to distinguish them from the Clinical Instruction furnished at the Pennsylvania Hospital. This course differs from hospital instruction in the patients being usually presented to the student only in the lecture room, whilst the points of pathology, surgical anatomy, &c., connected with the case, are illustrated by preparations and drawings from the Wistar Museum. The title therefore seems sufficiently distinctive. Under the system of practical teaching now pursued by the Faculty, the student has opportunities of seeing not only the severe cases of the wards of an hospital, but also the tumors, operations and lighter cases of ordinary practice. He is therefore amply instructed in practical details; being first engaged for two hours on each Wednesday and Saturday at the Pennsylvania Hospital, and then occupied for two hours more, in witnessing the operations and demonstrations of practical surgery and medicine, within the University building.

The Demonstrative Surgical Lectures are conducted by Dr. Gibson, Professor of Surgery, on Wednesday at 1 o'clock, and by Dr. Wm. E. Horner, Professor of Anatomy, on Saturday, at the same hour; both being aided by Dr. Henry H. Smith, assistant Lecturer on Demonstrative Surgery. In addition to the bi-weekly lectures, the student can also follow the daily treatment of patients in the Dispensary of the Institution, where much of the office business of the physician and surgeon is amply illustrated. A male and female ward, capable of containing the cases of severe operation, together with a well assorted pharmacy, complete the arrangements of the faculty for conducting this part of their instruction. Experience (as tested by the increased attendance of both practitioners and students) has proved that these lectures are a most valuable addition to the former system of clinical instruction, and as the large number of students resorting to the Pennsylva-

nia Hospital during the Winter months, renders it impossible for the class to visit the wards, every addition to their facilities for the observation of disease, must be regarded as possessing increased value.

The surgical demonstrations being those which are especially adapted to this kind of teaching, we have collected, as illustrative of the general character of the course, a condensed statement of the more important cases shown since the opening of the session of 1850—51.

Oct. 9th, 1850. Dr. Gibson commenced the lectures by some introductory remarks on the plan at present pursued by the medical faculty in reference to practical instruction; alluding to his having first originated it many years since, when, owing to the defects of the alms-house hospital, it became necessary for him to add to the clinical instruction of his class. Since then, the more perfect arrangements of that hospital had rendered his system unnecessary until within the last five years, when similar circumstances had again required its renewal. As it had been now well tested, he thought that its value might be considered as established, not as presenting a substitute for hospital instruction, for on that the faculty had always insisted and materially contributed to, in the hospital course, but as affording the class additional means for the practical study of surgery, and especially of such cases as they would first meet with in practice, yet seldom see in a hospital.

Amputation of the Leg.

After these remarks, and an explanation of the arrangements of the dispensary, &c., Dr. Smith brought forward a patient who had labored for fifteen months under necrosis, &c., of the tibia, from a compound fracture of the leg, caused by being run over by a rail road car, and who was now being exhausted by hectic. The Dr. therefore amputated the leg below the knee, the patient being so well etherised, as to be perfectly unconscious of pain throughout the operation, and having a smile on his face during the dressing. The Anæsthetic agent now, and for some time, employed in the University, consists of four parts of washed Ether to one of Chloroform, the latter being found to prevent the muscular excitement occasionally seen, where ether alone is employed, whilst the extreme sedation of the chloroform is obviated

by the ether. The stump being subsequently dressed with the cold water dressing, did well.

Amputation of Half of the Lower Jaw.

On the 16th, Dr. Gibson presented to the class a patient suffering from a large osteo-sarcoma of the lower maxilla, for which he performed amputation of one half of the bone, disarticulating and removing it without ligating any vessel of importance. This patient was also etherized, but not perfectly, lest the escape of blood into his throat should cause strangulation. Six weeks subsequently the man was again shown, laboring under a salivary fistula, and with evident signs of a renewal of the disease.

Dislocation of the Elbow, reduced after six weeks.

On the 19th, Dr. Horner presented a girl who had been laboring for several weeks under a dislocation of both bones of the forearm, backwards, at the elbow. This patient being etherized whilst the pullies were in action, and their power thus applied without resistance, was soon relieved of the deformity; after which an angular splint was employed, the angle being changed occasionally so as to prevent stiffness of the joint. The Doctor also removed a toe-nail without the patient's being at all conscious of it. The extreme pain attending this operation, as formerly practiced, illustrated fully the benefits of etherisation. In removing the nail, the operator explained the advantages derived from freeing it from the matrix, and removing it entire, instead of the usual operation of eversion after an incision through its middle; which, although it removed the cause of the disease at the time, yet left the patient exposed to the growth of a new nail. This mode has also been lately advocated by a surgeon in Tours.

Removal of the Parotid Gland.

On the 26th, Dr. Horner operated for the removal of the parotid gland in a gentleman from the South, assisted by Drs. Smith, J. Neill, and J. H. B. McClellan. This patient had been laboring under a carcinoma of the gland for more than a year; and the tumor was now about the size of the hand loosely closed, but not yet softened. Though perfectly aware of the risk of a return of the disease, Mr. O'B. preferred the chances of recovery, to the endurance of the violent neuralgic pains caused by the pressure of the tumor upon the nerves of the face. After the application of the anæsthetic, the Doctor made a crucial in-

cision over the tumor, the lines of incision being freely continued along the base of the jaw, and also down the neck in the course of the carotid artery. On turning back the flaps, the tumor was found to be firmly bound down by fibres of the platysma-myodes muscle, and fascia of the neck. After dividing these freely, the dissection was commenced from behind, the tumor having contracted firm adhesions to the anterior edge of the sterno-cleido-mastoid muscle. By working carefully forwards, the gland, which was surrounded by a firm capsule formed by the effects of the inflammation upon the cellular substance around it, was gradually freed from its posterior and inferior attachments, when the primitive carotid being brought fairly into view, was found to have been so much involved in the disease as to show very considerable thickening of its coats, giving it the form and distended appearance of the vessel when injected in the subject. To guard against sudden hemorrhage, a ligature was therefore passed around the artery on a level with the larynx, but not tied. The dissection being again resumed, the upper and anterior attachments of the tumor were divided, and the primitive carotid being tied, the tumor was removed from its deep attachments. These were, here, not so deep as in the healthy condition, the adhesion of the tumor to the angle of the jaw having favored its exit from the deepest points. The division of the internal maxillary having caused considerable recurrent hemorrhage, the internal and external carotids were also tied, lest in their patulous condition, recurrent hemorrhage should ensue through them also. The submaxillary gland being evidently involved in the disease, it was removed, as well as a chain of diseased lymphatics leading towards and adhering to the thyroid on the same side. The wound now made was a perfect gap, and exposed freely all the deep parts of this region; but, on a close examination of the neck, it was impossible to find either the internal jugular vein or the *par vagum* of this side, the probability being that the pressure caused by the binding down of the tumor by the fascia, &c., had caused their disappearance. The operation lasted fifty-five minutes, during most of which the patient inhaled the anæsthetic, although he was not fully etherised during the entire operation. The wound was then filled with lint, and the flaps loosely confined by sutures. On the *eighth* day all the ligatures had separated spontaneously,

and a long thin slough showed all that remained of the upper portion of the carotid on this side. About six weeks afterwards the wound had filled up considerably, but was not allowed to close, a surface of three inches by one and a half or two inches, being purposely kept open in the hopes of doing good by the suppuration. The patient then started for home, in charge of his medical attendant, who was requested to dress the part with acetic acid, in order, if possible, to destroy any diseased growth that might appear.

Resection of the Femur for Deformed Fracture.

Nov. 2d. Dr. Horner brought forward a man, from Schuylkill county, who had received a fracture of his femur, eighteen months previous, but which had been allowed to unite with great deformity, the bone being bent angularly on the outer side of the thigh, and the limb shortened to the extent of four inches.

Having etherised the patient very thoroughly, Dr., Horner assisted by Drs. Smith, Neill, and Chas. Evans, made an incision on the outside and back of the thigh, so as to avoid the blood-vessels, and give vent to any subsequent suppuration, and then sawed off the two oblique ends so as to make the fracture transverse. The pullies being now applied, in order to overcome the shortening, powerful extension was made, and the fragments slipped past each other, so as to bring the limb straight, and elongate it to within half an inch of its proper length. The two fresh surfaces of bone being thus brought in contact, Physick's long splints were applied, together with circular splints around the seat of fracture, and the patient was put to bed. For 36 hours he did well, but mortification of the limb quickly showing itself, he became typhoid, and, notwithstanding the most active treatment, sank rapidly, and died four days after the operation. From its being impossible to obtain an autopsy, the cause of death could not be positively determined, but the impression was, that the mortification resulted from phlebitis, caused either by some injury to the veins, during the extension, or from their compression against the callus surrounding the fracture. A careful external examination showed that the femoral vein was thickened, or filled with a clot, as far up as the external iliac, whilst the limb, from the knee to the iliac region of the same side, was emphysematous and mottled. Pressure in the groin forced gas

out of the wound, from which there also issued a considerable amount of dark grumous blood, which possibly had resulted from hæmorrhage beneath the fascia femoris, but which did not show itself externally, in consequence of the splint closing the wound.

Exostosis of Nasal Bones.

On Nov. 9th Dr. Horner removed an exostosis as large as a large chesnut from the nasal bones of a man, but the patient was unable to give any history of its origin.

Abscess in the Cancellated Structure of the Tibia.

He also presented a patient with an enlargement of the tibia, at its lower third, of about three months duration, the result of a blow. Believing it to be a case of osteitis, and that the excruciating pain was due to an abscess in the cancellated structure of the tibia, the Doctor laid bare the bone, and perforating it with a trephine, so as to expose the structure near the medullary cavity, obtained nearly a half ounce of pure and apparently healthy pus, thus verifying most satisfactorily the diagnosis. The patient was quickly relieved, and in about ten days returned to his home.

Extirpation of the Left Testicle.

On the 16th, a patient, laboring under a fungus of the left testicle, was presented by Dr. Horner, and the history of the case fully detailed. After the administration of the anæsthetic, the testicle was removed in the usual manner, the arteries of the cord being separated from the vas deferens, before the application of the ligature, or the division of the cord. The wound being then united by sutures, was subsequently dressed with cold water, and did well.

Amputation of the Mammary Gland.

A case of well marked scirrhus of the breast, unaccompanied by axillary disease or ulceration, was brought forward, on the 23d of November, by Dr. Smith. After detailing the history and peculiarities of the case, the Doctor etherised the patient and removed the entire gland, without the woman's exhibiting any consciousness of suffering. After completing the dressing, allusion was made, by Doctor Smith, to a point of practice suggested to him by Dr. Horner, viz.: the importance of avoiding, if possible, any removal of the fascia, or sheath of the pectoral muscle; it having been proved in several cases, that its injury impaired the

free motion of the arm, especially in such movements as put the pectoralis major upon the stretch. Two weeks subsequently, this patient was again exhibited, improved in health, and with the wound rapidly cicatrizing.

Fungus of the Dura Mater.

On Nov. 27th, Dr. Gibson presented a boy, æt. 13 years, who had upon the left half of the os frontis, near the left frontal protuberance, a small tumor about the size of a horse-chesnut, or buck-eye. This tumor was elastic, partially moveable, and in most respects similar in appearance to the ordinary atheromatous encysted tumor. It was said to have existed from childhood, and for several years was quite small, but within the last nine months it had rapidly increased. A close examination proved it, however, to be something of a more serious character than was at first supposed, as gentle pressure caused its partial disappearance, although it did not produce any cerebral symptoms, whilst an opening with a sharp well defined edge, could be distinctly felt in the os frontis, by an accurate and experienced finger. Having therefore little doubt as to its being a fungus of the dura mater, the Doctor cautioned the class in regard to a mistake in the diagnosis of such tumors, and the extreme danger that would result should an operation be attempted.

A similar tumor, but of much larger size, was presented at the Dispensary, during the summer, by Dr. Horner. This, on being tested with a needle, bled freely, and was immediately closed,—but the patient has since been lost sight of. The importance and rare character of these tumors therefore induce the publication of this record of them.

Dislocation of the Lens and Staphyloma.

A child suffering from this injury, and also one of Hare Lip, were presented and operated on by Dr. Horner, on Nov. 30th, after which a suspicious tumor was removed from the arm of an old lady, who had been suffering for eighteen months, under a disease believed, by Dr. Smith, to be that of moluscum.

Artificial Limbs.

After some remarks by Dr. Horner on Coxalgia, in connection with an acute case shown Dec. 7th, Dr. Smith exhibited the patient whose leg he had amputated October 9th, and explained the advantages to be derived from artificial limbs, both in the

upper and lower extremities. Those shown seemed to be well adapted to the purpose, and the mechanism of a hand was especially good, it enabling the patient under favorable circumstances to grasp a hat, whip, &c. After referring to the importance of attention, on the part of the surgeon, to the prevention of ulceration of the stump, as well as to the length, when it is proposed to apply an artificial limb, he mentioned that those then shown were made by Messrs. Kretchmar & Gildea, No. 64 Dock street, and had several points to recommend them. He also exhibited a well marked case of Rickets, in which the limbs had been very much straightened by the use of Rohrer's splints.

A case of umbilical hernia and one of fistula lachrymalis were also exhibited by Dr. Horner.

In addition to the above summary of cases, many other patients, suffering under interesting surgical complaints, have been shown at various times, and the peculiarities of their complaints thoroughly explained by the lectures. The general character of these remarks, together with such other points of future cases as may possess general interest, will be hereafter reported somewhat more in detail.

Clinic of the Jefferson Medical College. Service of PROFS. MÜTTER and PANCOAST.

Report furnished by C. W. HORNOR, M. D., Senior Clerk of the Surgical Department.

Cases treated from September 1st to December 21st.

Whole number of cases,	-	-	-	906
" " operations,	-	-	-	120

Viz., Lithotomy, 1; Amputation, 7, (viz., leg, 1, fingers, 4, Toes, 2;) necrosis, 4, (viz., femur, 1, arm, 1, foot, 2;) trephining Cranium for epilepsy resulting from depressed fracture, 1; Castration, 3; resection of femur for ankylosis, 2; screw applied for false ankylosis, 2, in one of which the hamstring tendons were divided; introduction of seton for pseudarthrosis of humerus, 1; extensive plastic operations for malignant ulcer of face, 3; do. for mercurial ulceration of cheek, 2; do. for burn of arm, 1; removal of fungoid tumour of Scalp (very large,) 1; reduction of luxated humerus, 2, one of seven weeks standing; for

stricture of œsophagus, 2; trephining for serocystic tumor of lower jaw, 1; contraction of tendon of pectineus muscle treated by subcutaneous section, 1; extirpation of the eye, 1; cataract, 2; tumours, 19, (viz., arm, 2, brow, 1, cheek, 2, face, 1; cancer of lips, 2, back, 1, sarcomatous of epigastrium, 1, condylomatous, 2, epithelial of tongue, 1, cancroid of ear, 1, epithelial of face, 1, fatty in groin, (very large,) 1, epulis, 1, erectile of lip, 1, steatomatous on nose, 1, fibrous on the neck, 1;) removal of foreign bodies, (glass from hand, 1, slug from thigh, 1, shot from hand 3,) distichiasis, 1; strabismus, 4; abscess, 8, (viz., over sternum 2; head, 1; groin, 1; face, 1; cheek, 1; psoas, 1;) paronychia, 4; pterygium, 3; excision of tonsils, 3; ganglion on wrist, 3; removal of cartilage in knee joint, 1; staphyloma corneæ, 2; fistula lachrymalis, 4; do. in ano, 3; do. in urethra, 1; hydrocele, 3; hare lip single and double, 2; scirrhous mamma, 1; stricture of urethra, 1; evacuation of humors of eye, 1; cicatrix of hand treated by subcutaneous section of tendons, 1; exostosis of tibia, 1; fissure of tongue, 1; injection of eustachian tube, 1; introduction of seton in scrotum for hydrocele, 1; aneurism by anastomosis, 2, one embracing one half of head and extending into the roof of the mouth; varicocele 3; polypus of nose, 3; onychia, 1.

In addition, the apparatus for club foot, spinal disease, and trusses for hernia, were applied in several cases.

Days of operating 32; average number of patients each day, 28.

Clinic of October 23d, 1850.

Cases presented.—Varicose veins of leg; Caries of sternum; Ulcer of breast; Hemorrhoids; Spina bifida; Coxalgia; Scrofulosis; Tertiary syphilis; Ulcer of leg; Fistula lachrymalis; Neuralgia of eye; Cancer of cheek; Rupture of biceps fascia; Conjunctivitis simplex; Granular conjunctivitis; Paronychia; Oblique hernia; Acute osteitis of carpal bones; Abscess of neck; Contusion of spine; Tumor of thigh; Chronic conjunctivitis; Ankylosis of knee; Necrosis of femur; Caries of spine; Elephantiasis of leg; Psorophthalmia; Rheumatic inflammation of the eye; Epilepsy from depressed fracture; Cancer of lip—operation; True ankylosis of knee.* Total, 32.

* The names of the patients were given, but have been omitted for want of room.—Eds.

Several of these cases were exhibited before the class and prescribed for or operated upon; after which Prof. Mütter read the case of John Mahony, performed the operation of "resection," proposed by Dr. J. R. Barton, and concluded with some remarks on "ankylosis."

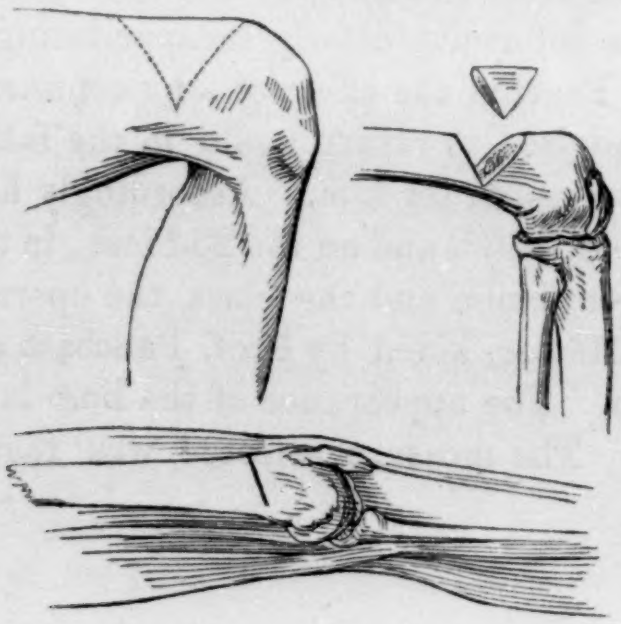
Case 32. *True ankylosis of the knee, following acute inflammation of the joint.*—The patient, John Mahony, æt. 31, a robust sailor, was taken on the 6th day of January, 1849, without any apparent cause, with an acute pain in the right knee. The inflammation which followed soon disabled him, and he was obliged in consequence to apply at the Boston Marine Hospital for surgical assistance. Notwithstanding judicious treatment, suppuration in and about the joint supervened, and to evacuate the pus the joint was twice opened. After remaining in the hospital seven months and a half, during the whole of which period the knee continued to discharge copiously, he left the institution with the leg flexed at nearly a right angle, and with no motion in the affected joint. It appears that he next entered the alms house, and from this institution, after a month or two, he passed into the hospital on Quarantine Island. Thus it would seem that several months elapsed between the development of the attack and its termination in complete ankylosis. When he presented himself at the Jefferson College clinic in April, 1850, no trace of inflammatory action remained. The integuments exhibited here and there a cicatrix, but were otherwise healthy, while not the slightest motion could be effected in the knee-joint. The general health and spirits of the patient were excellent, and he earnestly besought us to attempt some operation for the relief of his deformity, a deformity utterly incapacitating him for duty in his vocation. Fearing the effect of long confinement, in warm weather, he was advised to return again in the fall, when something would be attempted for him. Accordingly he made his appearance in October, 1850, and on the 23d inst., in the presence of several medical gentlemen and the class, the operation was performed by Prof. Mütter, aided by Prof. Pancoast and Drs. Goddard and Wallace. The appearance of the limb is well shown in the annexed cut. The measure selected was that proposed by

Dr. J. R. Barton, and the various steps of the operation may be grouped together under five heads.

Fig. 1.

1. *Incision of the integuments.*—In this, the direction of Dr. Barton was carried out. Two incisions were made over the

Fig. 2.



femur, just above the patella. The first commenced at a point opposite the upper and anterior margin of the *inner* condyle of the femur and passing obliquely across the front of the thigh, terminated on the outer side just below the centre of the limb. The second incision commenced also on the inner side, about two inches and a half above the first; and passing likewise obliquely across the thigh, terminated with the other in an acute angle. (See fig. 2.) By these incisions were divided the integuments, the tendon of the extensor muscle of the leg, at its insertion into the upper part of the patella, and some of the contiguous fibres of the rectus crureus muscle themselves, a greater part of the rectus internus, and a portion of the rectus externus muscles. A flap composed of these tissues was thus raised from the femur close to the condyles. The soft parts were next detached from the bone, so as to admit of the use of a saw. Attention was then directed to the hemorrhage, (comparatively slight,) and, this arrested, the second step of the operation was executed.

2. *Sawing the Bone.*—This is the most important step in the whole operation, for if we commit an error in calculation, a successful result cannot be anticipated. Dr. Barton has well explained that the *wedge shape* is the only one proper to be given to the piece of bone removed, and again, that the *angle* of section must be neither too *acute*, nor too *obtuse*. If *too acute*, the cut surfaces would reach each other before the limb is sufficiently extended; if *too obtuse*, the leg would bear full extension without entirely closing the gap, and hence reunion might be prevented. To determine the *angle* then is a matter of great consequence and to do this the plan proposed by Dr. Goddard is the best, viz.: *Take the angle of deformity, and then remove from the bone the complement of this angle.* Having determined this point, previously, the flap was held out of the way, and a triangular piece of bone, of the proper size, (see fig. 2,) removed by means of a small narrow-bladed saw. The incisions did not extend through the bone, but united within a few lines of its posterior portion, leaving this to be separated in another manner.

3. *Breaking the bone.*—The solution of continuity was rendered complete by simply bending the leg backward, the thin portion of bone breaking without difficulty. This, the third step in the operation, is important, and was introduced by Dr. Barton to

protect the popliteal artery from the danger of being wounded by the saw, and also to steady the fragments of the divided bone by the interlocking of the fractured surfaces. Without this interlocking, the artery would be much endangered by the *sharp ends* of the divided bone coming in contact with it during the subsequent attempts to straighten the limb.

4. *The dressing.*—The flap was next adjusted, maintained in place by suture and strap, and the cold water dressing applied, the limb being carefully held at its original angle of deformity.

5. *Application of splint.*—Dr. Barton used a double-inclined plane, upon which the limb was placed, during the subsequent treatment, but Dr. Mütter employed a screw of Stromeyer's, modified slightly, for the reason that the extension of the limb could be made with more rapidity, and also because it allows the ham to be entirely free from pressure (a most important point) during the whole treatment. In this splint the limb was placed at the *angle of deformity*, no extension being made for fear of forcing the rough ends of the bone into the ham, the patient put to bed lying on his back, and a strict antiphlogistic treatment ordered, with anodynes in case of pain.

On the tenth day, the screw was turned and extension of the leg commenced. Extension was postponed to this period in order that the asperities of the fragments might be removed, or at least embedded in plasma, and thus occasion no inconvenience or hazard in the future treatment. Each day the extension was increased, by simply turning the screw a few threads, and at the expiration of six weeks the leg was found perfectly straight, the cut surfaces united (see fig. 2) and shortened about a quarter of an inch, just sufficient to give the heel the proper elevation for convenient use. During the entire period of treatment not a bad symptom was manifested, the patient having experienced little or no pain, and the wound uniting by *first intention*, with the exception of the acute angle of the flap, which ulcerated.

Fourteen weeks have elapsed since the day of operation, and the union is firm and perfect, the limb presenting the appearance shown in the annexed cut. (Fig. 3.)

Fig. 3.

Remarks.—The term *ankylosis** is derived from the Greek word, signifying *bent* or *crooked*, and is employed to designate that condition of a joint in which its motions, both active and passive, are either partially or entirely destroyed, accompanying which loss there is usually a change in the natural shape of the part. It must be borne in mind, however, that often in ankylosis there is little or no alteration of the shape of the joint involved; it is neither *bent* nor *crooked*, as the etymology of the term would indicate. The beautiful specimens of ankylosed hip, elbow, and knee joints, contained in my collection, and to which your attention has already been directed on another occasion, prove this fact. As the stiffness may involve *one* joint or *several*; may depend on different conditions of the constituents of the part,

* Ankylosis, or anchylosis, ἡ αγκυλωσις, (ἀγκύλη, a bending, flexure, more properly the bend of the elbow, the ham, a contracted joint, "contractos articulos ἄγκυλας, Græci nominant." Cels. v. 28.) Stiffness, rigidity, and adhesion of a joint, distortion.

and may also be either *simple* or *compound*, *partial* or *complete*; surgeons have divided this deformity into several kinds.

By *simple* ankylosis we mean that variety in which the joint involved assumes a position and appearance as nearly natural as possible; when, on the other hand, dislocation, either partial or complete, of the articulating surfaces accompanies the stiffness, or the limb is distorted, the case is *compound* or *complicated.*

When the stiffness is confined to but one articulation, and is dependent, as it usually is, on the influence of some local cause, the ankylosis is termed *partial* or *local.* When all, or nearly all the joints are involved, as in the cases of Baron Percy, Bernard Connor, and others, reported in the different surgical works, and the defect is the result of an internal or constitutional cause, it is called *general* or *universal* ankylosis.

Another division of ankylosis is based upon the degree of motion preserved, and the character of the tissue in which the resistance to motion resides. Thus when all motion is lost, and the articular facets are united by bone, cartilage, or dense fibrous tissue, we have a case of *true* or *complete* ankylosis. Mayo has divided this form of the disease into the *osseous*, *cartilaginous* and *mixed*, inasmuch as either *bone* or *cartilage*, or *both* together may form the uniting medium.

When stiffness is dependent upon some defect of the soft parts of the joint, either *extra capsular* or *intra-capsular*, or of the *capsule* itself, and the joint is susceptible of slight motion at the time our examination is made, or if this be absent, capable of being rendered moveable by proper subsequent management, the ankylosis is *false, or incomplete.* Again, these false ankyloses may be divided into the *extra-capsular*, *intra-capsular*, and *capsular*, and this division, so far as prognosis is concerned, is one of much importance. In the first, the tissues surrounding the joints, viz., integuments, cellular tissue, muscles, tendons, and fascia, are involved, and the case is generally susceptible of cure. In the second and third, the rigidity is occasioned by some lesion of the ligaments or synovial membrane, and, although curable if taken in time, is excessively prone to terminate in incurable, or true ankylosis, by involving the cartilages, or bones, or both, in the disease.

It must be obvious that the defect under consideration cannot, with strict propriety, be considered a disease; it is rather a product or termination of morbid action, and often, on this account, its occurrence proves one of the most certain indications of a cessation of disease. True ankylosis is indeed often the only favorable result in certain affections of the joints, and we consider the case as cured, when, by our remedies, we are able to bring about this occurrence.

Before undertaking to relieve stiff joint, therefore, we must carefully investigate its causes, and ascertain whether or not it is proper to attempt a cure of the deformity to which it often gives rise.

Causes.—The causes which operate in the production of ankylosis are numerous, and most of them occasion the complaint by keeping the parts involved motionless, or nearly so, for a length of time, or by the development of inflammation. There are some, however, that seem to exert their influence under all circumstances; for example, old age, chronic rheumatism, and chronic gout. It is true the joints usually involved from the operation of any one of these causes, are those possessing comparatively but little motion, as those of the spine, pelvis, and some of the ginglimoidal; and the individuals themselves are forced to lead very sedentary lives, which will of course favor the occurrence of stiffness.

True ankylosis is also occasionally developed in the effort which nature makes to protect herself from harm in certain curvatures of the spinal column. This beautiful provision is well shown in several specimens in my collection, taken from individuals affected with the complaint. Ledges of bone are thrown into the hollow of the different curves, so that the spinal column is supported, and prevented from yielding so far as to endanger life.

True ankylosis is, however, most generally the result of some disease of the synovial membranes, cartilages, or bones of a joint, although it may result from long confinement to one position, as has been clearly shown by Malgaigne, Tessier, and others. It is commonly believed that the ankylosis resulting from long confinement of a joint to one position, as in the treatment of fractures of the extremities, belongs to the class of incomplete

or false ; and this, to a certain extent, is true, but we often have produced instead, complete and incurable stiffness. This fact adds another to the long list of objections to the use of immoveable apparatus, in the treatment of fractures.

False ankylosis, especially the extra-capsular form, is developed by causes somewhat similar, although they produce lesions by no means so grave as those which are present in the true. The most common of all these causes is rest. When a joint, even although perfectly healthy, is confined to one position for any length of time, we find its integuments, and the cellular tissue beneath them, contract, and become more or less rigid; its ligaments and tendons also stiffen, and the muscles to which they are attached shorten where the limb is flexed, and lengthen where it is extended, and often undergo changes in their tissue, by which they lose their physical characteristics, and are rendered, to a certain extent, useless, while the synovial secretion is arrested or diminished. A good illustration of the influence of rest upon the joints, is afforded by the stiffened limbs of the Fakirs of India, who, actuated by religious motives, condemn themselves to the observance of one position during their whole lives. The same thing is often seen after the treatment of fractures, luxations, or sprains, when the limb has been maintained in one position for too long a period.

Wounds followed by sloughing of the skin, burns, &c. ; in short, any injury likely to be followed by extensive cicatrization, may lay the foundation of extra-capsular ankylosis. You all know the power with which one of these cicatrices forms, often destroying or displacing some of the most important parts of the body. Here is a hand, the fingers of which nearly touch the back of the forearm, in consequence of a burn. This drawing you recollect as the one taken from a patient whose chin was drawn down to the sternum, by the cicatrix of a burn, and held there for twenty-seven years. Such cases can only be relieved by very extensive plastic operations.

Extra-capsular ankylosis is also sometimes brought on by the development of an ulcer, or an abscess, or a phlebitis, or an angioleucitis, the result of some trivial wound or blow received upon the part. The complaint being generally confined to one side of the limb, there is contraction in this direction, produced

partly by the patient's flexing the limb to take off pressure from the inflamed surface, and partly by the swelling itself, displacing the tendons and fascia in the neighborhood. By and by lymph is deposited, and unless the disease is cured, there remains permanent contraction of the limb, with motion in but one direction. This form is readily distinguished from that dependent upon shortening of the muscles, by the following experiment. If we take hold of the limb farthest removed from the body, and steady the one to which it is attached, and then attempt to separate them, or bring the member to its proper shape, we find in this form of ankylosis that the soft parts, although rigid and unyielding, are yet smooth and even upon the surface. Now, when the tendons or muscles are chiefly in fault, and the same experiment is tried, we find them standing out in bold relief, as hard and as rigid as pieces of wire, while the soft parts in the vicinity are comparatively loose and yielding.

Different affections of the tendons or muscles, in the vicinity of a joint, may also cause extra-capsular ankylosis. A man, for example, receives a slight wound of a tendon or muscle, irritation or even inflammation of the part sets in, and the joint contracts by a shortening of the muscle alone. Sometimes the same cause may excite adhesions between the tendon and its sheath, or may even cause a sloughing of the same part.

Sometimes this form of ankylosis is dependent on a constitutional cause, as rheumatism or gout. Often, too, a loss of muscular power, either by sloughing, or wounds, or paralysis on one side of the joint, by destroying, as it does, the balance of power which naturally exists, will bring on this form of ankylosis.

The sound muscles being no longer opposed by their antagonists, pull the limb into an unnatural position; and as there is no power to overcome this influence, they keep it contracted, and gradually accommodate themselves in length to the altered condition of the parts, so that when we attempt to straighten the member we find it impossible to do so, until by stretching or division with the knife, the shortened muscles are made to yield.

In certain forms of club foot, torticollis, contraction of the fingers and toes, &c., this kind of ankylosis is encountered. In cases of long standing, we invariably find the muscles and ten-

dons of the weak side stretched and frayed out, and so much weakened that months and even years may elapse before they regain their natural tone and vigor.

This should always be explained to the patient, who will be obliged to make use of artificial support for some time after the member has been restored to its natural shape.

Extra-capsular ankylosis is also the result of contraction of fasciæ, as we see in certain forms of contracted elbow, knee, and hands. It may also proceed from the growth of tumors, and the deposit of bone around the joint.

Capsular ankylosis.—This form is generally the result of a severe strain or twist of the joint, in consequence of which the capsular ligament is more or less injured; a luxation or fracture near the joint, gout, rheumatism, wounds, and even rest may occasion the same thing. It is extremely difficult to distinguish this variety of ankylosis from the *intra-capsular;* but usually in the latter, the cause operating is more violent, the stiffness is accompanied with more pain, and it is more difficult to move the joint. When a capsular ankylosis is examined by dissection, we find the fibrous tissue of the capsule thickened and hardened, and sometimes converted here and there into cartilage or bone.

Intra-capsular ankylosis is the result of some disease of the synovial membrane, usually acute or chronic inflammation, or their results; but the peculiar degeneration of this tissue, so well described by Sir Benjamin Brodie, may also lay the foundation of the complaint. The bond of union here, is nothing more than organized coagulable lymph, which sometimes stretches across the joint from bone to bone, in bands, or cords; at others it is deposited in patches, and, in a few rare instances, has been found spread over nearly the whole of the articulating surfaces of the joint, thus glueing the bones, as it were to each other.

The history of the case will generally enable us to decide as to the precise nature of the bond of union; but it should always be borne in mind that synovitis may lay the foundation of capsular, or even extra-capsular ankylosis, producing, as it often does, subinflammation of the cellular and fibrous tissues about the joint, and also the peculiar contraction of the muscles and tendons usually met with in diseases of the articulation.

It also frequently gives rise to true ankylosis—the disease extending to the cartilage and bones. The extreme rigidity of the joint, the apparent soundness of the tissues around it, the swelling which in the first stage of the disease, is usually present, the pain excited by moving the articulation, or pushing one bone against another, the character of the cause, and the fact that such cases are usually preceded by all the symptoms of inflammation of the synovial membranes, all serve to indicate to us the variety of the affection.

Morbid Anatomy.—From the explanation already given of the different varieties of ankylosis, the appearances on dissection may be readily imagined. But there sometimes exist certain effects to which reference has not yet been made. When resulting from inflammation we find all the products of this lesion manifested in one or more of the tissues. We may have, for example, simple *thickening* of the soft tissues, with *muscular contraction and adhesion* from effusion of plasma both within and without the articulation; deposits of calcareous matter in these bands of plasma, constituting the *intermediate ankylosis* (*l'anchylose par intermède,*) of some authors; destruction of cartilage, and *fusion* of the bones ("*l'anchylose par fusion,*") and again when the osseous deposite is abundant we have often a kind of socket formed on the outside of the joint into which one of the bones is received, and which has been described by Cruveilhier as *l'anchylose par invagination.* With these changes in the constituents of the joint, we have often subluxation and distortion and wasting of muscles. When *rest* is the cause of ankylosis, we have less alteration of the bony tissue of the joint, although here as under other circumstances, attrition of cartilages and fusion of bones may take place. The soft tissues, however, are always atrophied, and the muscles have been known in cases of long standing to undergo the *adipose transformation.* This is a rare result, but I have seen it in several instances.

Liability.—It is usually stated that the ginglimoid articulations are more liable than the orbicular to both true and false ankylosis; and the observation is correct, owing chiefly to the circumstance that the former are more exposed to accidents.

Their large articulating surfaces, and the number of tendons

and fascia by which they are surrounded, also predispose to the occurrence of the disease.

Diagnosis.—There is scarcely any difficulty in distinguishing the different varieties of ankylosis from other complaints, but it often demands a great deal of tact to distinguish them from each other. False ankylosis, for example, may exist, and yet the joint be as immovable as in the true variety; but by careful examination we may generally arrive at a just diagnosis. If, for instance, there is no motion in the joint, when it is twisted or turned with great force, if these efforts excite no pain, if the stiffness has been preceded by extensive intra-capsular disease, if the joint is comparatively but little swollen, if the patient feels a jarring when the limb is struck, or when he takes a false step, if it be in the leg, if he dreads these shocks, and finally, if, when we attempt either to bend or straighten the limb, the muscles and tendons about it are scarcely moved, we may pretty safely conclude that we have a case of true ankylosis to contend with. False ankylosis is also sometimes confounded with a rigid condition of the muscles surrounding a joint, which suffers from some acute or chronic inflammatory disease. A case of this kind was some years since shown me by my friend Dr. Rodman, and it occurred in the son of Mr. B——— of Schuylkill Eighth street. This lad had suffered from coxalgia for some months, and his limb was shortened seven inches, the thigh flexed at a right angle with the pelvis, and no perceptible motion in the hip joint. At first I was under the impression that true ankylosis had taken place, but on a more careful examination it struck me that it might probably be a case of simple false ankylosis from rigid muscles. I therefore applied an apparatus by which moderate and constant extension of the muscles might be kept up, and had the satisfaction to find that in the course of a few days, without pain, fever, or any inconvenience, the limb was reduced to the plane of its fellow, and within one inch of its natural length. The details of this case will be given on another occasion. The fact that this condition of the muscles may give rise to complete immobility, should be constantly borne in mind in an examination of stiffened joints.

In forming a diagnosis between the different kinds of false ankylosis, we must take into consideration the history of the

case. If the rigidity is the result of rest, cicatrices, affections of the sub-cutaneous cellular tissue, spasm of the muscles, slight wounds of the tendons, or injury of the fascia, it is probably extra-capsular. If caused by a spasm, or punctured wound, or a blow, it is capsular, and, finally, if acute or chronic synovitis, or gout, or rheumatism, or slight disease of the cartilages or bones has existed, we shall have the intra-capsular form.

Prognosis.—The prognosis in this affection varies with the character of the lesion, whether it be true or false; and if false, the nature of its cause, the duration of the case, the age and health of the patient, and the joint involved.

The prognosis as regards cure is almost always unfavorable in true ankylosis; and, until very recently,—indeed until the publication on this subject by Dr. J. Rhea Barton, of Philadelphia,—all such cases were ranked among the incurable forms of the affection, and even now the propriety of resorting to the operation of Dr. Barton, must be the result of mature deliberation. Many cases give rise to so little inconvenience as scarcely to warrant the hazard of the remedy; while others, as those that result from caries, or extensive disease of a joint, should not, as a general rule, be touched, inasmuch as ankylosis is the most favorable termination of the complaint; besides which, the operation may excite anew an inflammation in the part sufficiently intense to destroy the patient.

When the stiffness is partial the prognosis is usually more favorable, but even here we sometimes find it impossible to effect a cure. When it is dependent upon extra-capsular lesion, of no very long standing, and there is no loss of tendon or muscle by sloughing, the prognosis is favorable; but if the ankylosis be capsular or intra-capsular, unless the primary disease has been slight, or confined to the ligamentous tissue, as in gout or rheumatism, and the case is of recent occurrence, we shall generally have great difficulty in accomplishing our object.

When the stiffness depends on the location of a tumor, in the vicinity of a joint, the prognosis is generally favorable, inas much as we can remove the cause. The younger the person, the greater the probability of a cure in almost all cases, for, as we increase in years, the tissues become more rigid and unyielding. The general health, too, of the patient must be taken into con-

sideration; there are some persons so irritable and prone to inflammation, that the slightest effort towards a cure, made either with the knife or mechanical means alone, is sure to excite disease. We should, therefore, carefully examine the case, and determine, as nearly as possible, the propriety of instituting any treatment before our attempts are commenced. In illustration of the importance of this care, I may mention that several persons have either lost their lives, or been reduced to a very critical position, by the attempts to cure ankylosis by the screw. In my own practice I have been obliged, in two cases, to suspend the treatment, until the general health was so much improved as to justify the attempt to straighten the limb to be renewed. The prognosis is also modified by the joint involved, for we find it much more easy, as a general rule, to cure ankylosis of the orbicular than of the ginglimoidal articulations. The function of the joint is also found to modify the prospects of cure: thus, when the articulations of the maxillary bones are involved, as in the cases of Cruveilhier and others, it will be found impossible, by any operation, to afford relief. In one case, mentioned by Blackburn, the patient died from inanition in consequence of this cause.

(To be concluded in our next.)

University of Pennsylvania,—Demonstrative Medicine.

Reported for the Examiner.

Saturday Morning, Dec. 7th, 1850.

Professor Hodge conducts the Medical Clinics on Wednesday of every week, at 12 o'clock; Prof. Jackson on Saturday, at the same hour. The patients presented on such occasions are selected from those who come to solicit medical advice and assistance from the dispensary department of the University. The choice of Prof. H. is made with special reference to the elucidation of the diseases of children and females,—which are more particularly treated of in his regular course on these subjects; while the remainder, many of them interesting chronic affections of the chest, heart, and internal organs generally, are treated by Prof. Jackson. The assistant to both these gentlemen, Dr. Gerhard, is always present, and aids in the examination and treatment of the cases, as well as in the clinical lectures delivered to the class in the amphitheatre.

The following lecture by Dr. Jackson is all that the crowded

state of our pages will, at present, permit our publishing. The cases are deferred until the next number.

Dr. Jackson's Clinical Lecture.

The Spirometer.

Medical Science finds, in almost every department of knowledge, some portion of its facts or laws applicable to itself, and lays them under contribution for its own advancement, or the augmentation of its resources.

The introduction of physics into the practice of medicine, applied to the diseases of the thoracic organs, belongs to the present time, and is the most valuable improvement that has yet been made in the diagnosis of disease.

Percussion and auscultation are means of ascertaining and interpreting the physical causes of sounds which can be determined by them as belonging to the thorax and its contents.

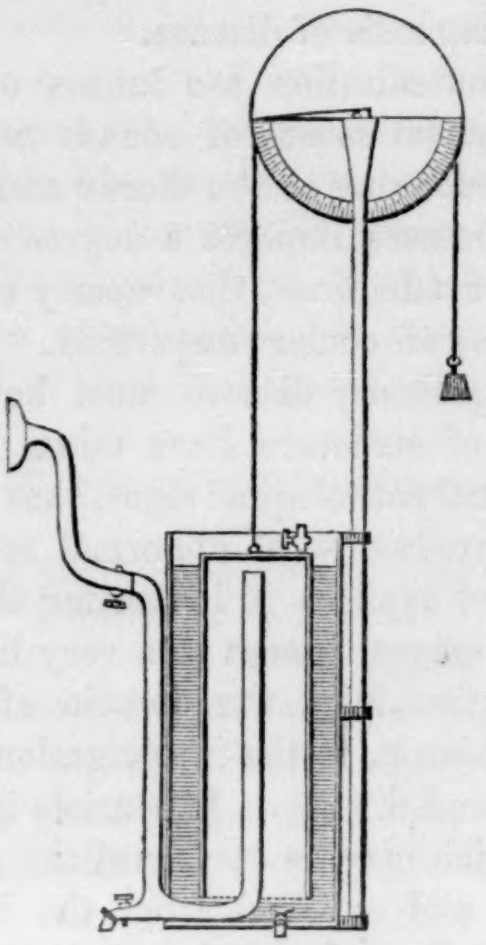
Skill in these processes imparts a degree of certainty to the diagnosis of thoracic affections, that nearly reaches perfection; it almost equals that of ocular inspection. There is, however, this defect attending them; disease must have made some progress, and change of structure have taken place to a certain extent, before physical pathological signs, that is, alteration in the normal sounds, or production of abnormal sounds would be produced. They do not avail us in indicating the approach of disease, or its forming stages, except to a very limited extent.

Another contribution from the domain of physics has been made, by Mr. Hutchinson, to the investigation of the respiratory functions in health and disease. It consists in an instrument he has invented, by which may be measured the amount of air that can be taken into and expelled from the lungs by voluntary effort; or what he calls "the vital capacity" of the lungs. By this instrument Mr. Hutchinson believes that incipient disease may be detected before physical signs exist. This instrument he names spirometer.

On the table is an instrument of the kind. It is simple and less expensive than that of Mr. Hutchinson. It was planned by a gentleman of this city, Mr. Charles McEuen, who has been confined to his room for some months by a pulmonary affection; possessing an active mind, with a turn for philosophical pursuits, he occupies his time in scientific observations and investigations. I

gave him Mr. Hutchinson's paper, published in the Medico-Chirurgical Transactions, containing a diagram of his instrument. Mr. McEuen constructed the instrument now before you on the the same principles. I think it preferable to the original.

The instrument will be seen to consist of a cylinder containing water, in which is immersed another cylinder inverted, into which the expired air finds its way. This cylinder is counterpoised by a weight attached to a cord passing over a wheel of large diameter, and which rotates with the ascent of the cylinder, caused by the entrance of the expired air, and on which a scale indicates the amount that has been introduced.



The person using this instrument must loosen any part of his dress that may restrain the movements of the chest or abdomen. He then deliberately expands his chest to its greatest extent, and expires through the mouth piece and air-tube into the cylinder. As this rises the wheel turns round, and an index marks on the scale, in inches, the amount expired.

To understand the use of this instrument, it is requisite you should possess some preliminary information on the respiratory actions, and to what extent they influence the air in the lungs.

Inspiration and expiration are performed by muscular power, and are both voluntary and involuntary actions. The extent to which they may be carried varies in different individuals, and in the same individual at different times. They have a limit which cannot be surpassed; the lungs can never be emptied, by the most strenuous efforts of expiration.

The air in the lungs is, therefore, divisible into two portions. The first, which is a fixed quantity, is that over which the will has no control, but remains after the strongest expiration, and is contained in healthy lungs after death. Its amount must correspond with the size of the thorax. Mr. Hutchinson calls this the residual air.

The second portion is that which is controlled by the will and muscular action. This portion Mr. Hutchinson divides into three sub-portions. 1st. Reserve air, or that portion which, after an ordinary expiration, may still be thrown out by a voluntary effort. 2d. Breathing air, or the portion inhaled and exhaled in ordinary breathing, when at rest; and 3d. Complemental air, or that portion that can be inhaled, by the strongest effort, beyond the amount of ordinary inspiration.

The three last are included in, and designated by the term "Vital Capacity." It is, in fact, the highest effort of the muscles producing respiration. The spirometer measures the "vital capacity" of an individual, and, it appears to me, is the measure of the muscular respiratory power.

Mr. Hutchinson was struck with the fact, that the vital capacity had no relation to the size of the thorax. On the contrary, he found, by experiment, that persons of the largest thorax possessed a less vital capacity than others with chests much smaller.

In the course of his observations he remarked that there appeared to prevail a very close relation between the height of individuals and their vital capacity. This circumstance was the more strange and unaccountable, as height depends most commonly on the length of the lower extremities, and not on that of the chest or trunk alone.

From observation made on a large number of individuals, taken indiscriminately from various classes of society, amounting to

2150, he arrived at the conclusion, that the vital capacity is a constant quantity, and holds a close relation with the height.

From the result of direct examination, in near 2,000 cases, Mr. Hutchinson felt authorized to announce the following rule, "For every inch of height (from 5 feet to 6 feet) eight additional cubic inches of air, at 60° are given out by a forced expiration."

He further states, "here is a guide for the operator, and a rule given that will enable us to compare men of different stature and conditions of health, one with another."

If this result should be found accurate, the spirometer would be unquestionably a most valuable addition, to aid the physician in deciding the state of health in many cases, that are, by our common mode of examination, enveloped in great uncertainty.

The following table shows the relation between height and vital capacity.

Height.				Total Capacity.
Ft.	In.	Ft.	In.	Cubic Inches.
5	0	to 5	1	174
5	1	" 5	2	182
5	2	" 5	3	190
5	3	" 5	4	198
5	4	" 5	5	206
5	5	" 5	6	214
5	6	" 5	7	222
5	7	" 5	8	230
5	8	" 5	9	238
5	9	" 5	10	246
5	10	" 5	11	254
5	11	" 6	0	262

Before making any further comment on the rule laid down authoritatively by Mr. Hutchinson, I will test by the instrument the vital capacity of some patients affected with pulmonary disease, who are now present.

(Several patients, cases of chronic pleurisy, phthisis pulmonalis in various stages, and emphysema, were tested, the height and age being first ascertained.)

They vary, you perceive, from 80 to 120 cubic inches expired. Not one of the above patients approaches to the normal vital capacity, in accordance with his height and age.

They are from 80 to 200 cubic inches below the standard according to the table.

I must confess, that I have some misgivings as to the accuracy of this rule, and cannot but suspect that another element than that of height regulates the extent of vital capacity, and that element is the muscular force of the respiratory muscles.

I express this only as a suspicion. The extent of Mr. Hutchinson's inquiries, the evident care, labor and conscientiousness with which he pursued his investigations, entitle them to the highest consideration, and they should not be lightly questioned.

But, in a considerable number of examinations I have made on healthy individuals, of the same height and age, with slight difference of weight, there is manifest such wide difference of vital capacity, that I cannot but hesitate in adopting the rule as universally applicable.

I have, for instance, examined, within 24 hours, three gentlemen in perfect health, one a member of our profession, who have all been and are engaged in active pursuits. They are, respectively, 5 feet 11 inches, 5 feet 11½ inches, and 6 feet in height; the vital capacity of the first two is only 170 cubic inches, and of the last 190 cubic inches. According to Mr. Hutchinson's table they ought to have a vital capacity of 250 to 260 cubic inches.

Now, these gentlemen have a peculiar, and I may say, an American conformation. I am under the impression it is not common in England. They are tall, long limbed, thin, with very slender muscles.

The highest vital capacity I have met with, as yet, is in a young gentleman 5 feet 8 inches in height, in whom it is 280 cubic inches. He is of sanguine temperament, large, bony-framed, and with well developed muscles. So far as about 100 observations have been made, I have not found that uniform relation, as stated in the rule, between height and vital capacity. The differences, from 20 to 100 cubic inches, are too great to be attributed to accidental circumstances. The individuals I speak of are all in high health.

More numerous and extended observations are, however, required, before a positive conclusion on this subject can be justified.

It has occurred to me that the discrepancies between Mr. Hutchinson's statements and my own observations, should they be confirmed by more numerous experiments, may depend on

differences of race. The English are far more homogeneous than the Americans. In this country races are mingled, and continue to be more blended every day. As a race the English are bony, muscular, and sinewy. Experiments with the Dynamometer have shown they possess a superiority of muscular force.

In a homogeneous population the average height and weight would be in accordance with an average development of the muscular system. But in a mixed population the same rule would not apply.

I believe there can hardly be a question as to the very marked difference in the general aspect and structure of the native-born Americans, who are generally a mixed race, and those of the English, Germans, Irish, and French.

In examining Mr. Hutchinson's Table *A*, exhibing the total capacity of 15 different classes, there are very striking differences to be seen. Pugilists, seamen, fire and police-men, and grenadier guards, have the greatest vital capacity. This is shown in the column of the table for the height of 5 ft. 8 in. to 5 ft. 9 in., and from 5 ft. 9 in. to 5 ft. 10 in.

Table of the mean Vital Capacity of 15 *different Classes.*

	5 ft. 8 in. to 5 ft. 9 in.	5 ft. 9 in. to 5 ft. 10 in.
Seamen	239	258
Fire Brigade,	231	237
Police, Metrop.,	226	248
Ditto Thames,	250	240
Paupers,	199	262
Mixed Class,	238	246
Grenadier Guards,	233	240
Compositors,	214	231
Pressmen,	245	239
Draymen,	223	245
Gentlemen,	208	236
Pugilists, &c.,	243	273
Chatham Recruits,	251	266
Woolwich Marines,	240	246

In this table the vital capacity certainly does not correspond to height as it respects different classes. Those classes comprehending individuals whose occupations require athletic, robust, and picked men, exhibit a vital capacity varing from 20 to 40 cubic inches higher than paupers, compositors, and gentlemen.

This table appears to sustain the conclusion which seems to follow from the observations I have made here with the Spirometer, that it is muscular power, and not height, that governs the "vital capacity."

BIBLIOGRAPHICAL NOTICES.

Transactions of the American Medical Association, instituted 1847. Vol. III. Philadelphia, 1850. pp. 499.

(Continued.)

REPORT ON MEDICAL EDUCATION.

This Report which treats of a subject, which has been regarded by the Association as one of primary importance, in its connection with the existing and future state of medical science in America, covers but seven pages of the Transactions. The copiousness of former reports is considered by the Author as a sufficient reason for omitting a reference to many of the more special subjects which have claimed the attention of previous committees. But, notwithstanding the labors of his predecessors are regarded as so full, as to leave little to be accomplished, the Author of the Report appears to consider that they have left the subject in a mist of obscurity.

"The records of the discussion thus far embrace, as in most cases where practical subjects have been submitted to abstract investigation, a somewhat intricate intermingling of *facts* and *opinions*.

"The *facts* include a statistical history of the schools, professors, students, and graduates; their situation, quantity, kind and means of instruction; preliminary and ultimate requirements, modes of examination, and other important particulars.

"The *opinions* relate chiefly to conclusions thought to be deducible from the *facts*. So far as they have assumed a definite form, they assert, first in general terms, that the system of medical education in this country is defective. Second, that it is so because the number of schools is too great, their situation (in many cases) bad, their instructors too few, their students and graduates too many, the time devoted to instruction

too short, the quantity too limited, the quality too superficial, the bestowal of honours too profuse, and the mode of bestowal too unrestricted; all this involving, inevitably, a depreciation of the profession, and an impairment of the dignity, honour, and usefulness of the healing art."

How far these facts and opinions accord with the Reporter's own views, we are not informed, nor has he attempted to unravel the "somewhat intricate intermingling of facts and opinions" which he has discovered in former reports. To our minds he has, however, deduced sufficient material, from the labors of his predecessors to have formed a text for copious and profitable discussion. How stand the statistics of the schools for the past year? how many new ones have sprung into existence? where are they located, and what their means of giving a thorough medical education? Have the schools made any advance within the year in the means of instruction? Are practical anatomy, practical pharmacy, and clinical teaching, more regarded than in former years? Have the preliminary and ultimate requirements, and the mode of examination been improved or modified in any of the schools? Have any of them increased their number of Professors, lengthened their sessions, or improved the instruction either in quantity or quality? Is the bestowal of their honors more guarded and limited, or have they, or any of them, modified their courses in any essential particulars, and thereby added to "the integrity, honor, and usefulness of the healing art?"

From the Author's admitted appreciation of the labors of his predecessors, one would think that all these questions would have naturally arisen, in following up what they had commenced. Certainly the Association had a right to expect that such information would have been laid before them, by a committee to whom they had entrusted the duty of setting forth the progress which medical education was making within its limits. The Association had issued its recommendations, based upon glaring and increasing deficiencies in the courses of the medical schools, as officially reported to them, it was their right to know how far these recommendations had been heeded, and by what bodies they had been disregarded.

Such schools for instance, as had extended their terms of instruction, or shown a disposition to improve upon former plans, should have been made known, and those which had declined to

follow out the requisitions of the Association, should have been represented in the Report, in their own defence.

Instead of this we have a general acknowledgment of the good will of the schools, which is thus complacently set forth.

"The schools have been disposed to meet the efforts of the Association in a spirit of cordial co-operation. Some of them have attempted to carry into practice its most important recommendations; and almost all have manifested a desire to contribute to the improvement of professional education. In no instance has any one of them, so far as the Committee can learn, assumed a hostile aspect towards the Association or its objects. Whatever reproaches may have been uttered against them for deficieney or delinquency, they have reason to feel proud that their relation to the Association has been, from the first, one of harmony and good will; that they have identified themselves with it, not to thwart or defeat its great designs, but to further their fulfilment; not merely for their own honor and their own interest, but for the advancement of science and the good of their fellow men."

Now this language may lull the indifferent or listless spectator of passing events, into the fond belief, that great things are being done for medical education. Some schools have, we are told, *attempted* to carry into practice the most important recommendations of the Association; and almost all have *manifested a desire* to contribute to the improvement of professional education. Not one has assumed a *hostile aspect* towards the Association or its objects." This is certainly very well, as far as it goes. It is something for the representatives of the great medical community of the Union, to be thought well of by the schools, and not to be openly opposed by any single one of them; but it is far more important that their fruits should manifest a "cordial co-operation" with the objects which the body has at heart, in elevating the standard of medical education, and thereby increasing the usefulness and respectability of the profession.

Upon the several recommendations of the Association, in regard to medical education, the report is not altogether silent. In regard to preliminary education, great deficiency is acknowledged, which "should be equally shared by the profession, the schools, and the students."

The report further remarks:

"The Association has attempted to obviate this difficulty by urging upon the profession and the schools, certain recommendations, which as

too short, the quantity too limited, the quality too superficial, the bestowal of honours too profuse, and the mode of bestowal too unrestricted; all this involving, inevitably, a depreciation of the profession, and an impairment of the dignity, honour, and usefulness of the healing art."

How far these facts and opinions accord with the Reporter's own views, we are not informed, nor has he attempted to unravel the "somewhat intricate intermingling of facts and opinions" which he has discovered in former reports. To our minds he has, however, deduced sufficient material, from the labors of his predecessors to have formed a text for copious and profitable discussion. How stand the statistics of the schools for the past year? how many new ones have sprung into existence? where are they located, and what their means of giving a thorough medical education? Have the schools made any advance within the year in the means of instruction? Are practical anatomy, practical pharmacy, and clinical teaching, more regarded than in former years? Have the preliminary and ultimate requirements, and the mode of examination been improved or modified in any of the schools? Have any of them increased their number of Professors, lengthened their sessions, or improved the instruction either in quantity or quality? Is the bestowal of their honors more guarded and limited, or have they, or any of them, modified their courses in any essential particulars, and thereby added to "the integrity, honor, and usefulness of the healing art?"

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The report further remarks:

"The Association has attempted to obviate this difficulty by urging upon the profession and the schools, certain recommendations, which as

yet have not been fully complied with. Neither of the parties most interested seems willing to assume the responsibility. The student dislikes to have his self-complacency offended; the practitioner fears to hazard the good will of the student; and the school, it is feared, is often too anxious, lest the portal of some active rival should be found of easier access than its own. Hence, with the defect generally admitted and deplored, it does not appear that hitherto much has been done towards applying any efficient remedy."

On the subject of lengthening the lecture terms of the schools the Report holds the following language.

"The charge has been somewhat pertinaciously repeated that the student, after entering the schools, is often imperfectly and insufficiently taught; that there are schools badly situated, scantily officered, and meagrely equipped—unable, in short, to fulfil their promise to provide a proper course of public instruction. The Committee are not in possession of the name of any particular school against which, justly or unjustly, this charge has been openly and directly alleged. If there be a single school fairly deserving such an imputation, it is hoped no false compassion will interpose to shield it. After three years of consultation and discussion, it surely cannot be deemed unreasonable that this Association should discriminate between those schools which have its confidence and those which have not.

"Practically, the Association has advised an increase in the number of instructors, and an extension of the period of instruction. It is not known that either of these recommendations has been generally adopted; as to the last, it would seem that the original design of the Association, which, as the Committee apprehend, contemplated a lengthening of the term of lectures without materially increasing their number (on the ground that too many were crowded into too short a time), has been somewhat misunderstood. Since, of late, it has been argued that the *completeness* of a course of lectures necessarily depends upon its duration, and that this is an indisputable advantage of the six over the four months' course. The schools also appear to differ in their understanding of this point; some of them having increased both the term and amount of instruction, while others have extended the former alone. Thus, in the institution selected by the committee of 1849, 'as a model of the schools of our own country, whose rules and requirements are believed to be quite as full and extensive as those of any other institution, and whose trustees and professors seem to be as well disposed as any others to accede to the general wish of the profession, as expressed through this Association, to favour proper measures of reform'—although the lecture term is one of six months, the aggregate amount of instruction, as reported, is really less than in another school whose course continues but four and a half months. The Committee would suggest, therefore, that it should be fairly stated, by those schools in which the session is prolonged, whether there is, or is not, a proportional increase of the amount of instruction."

Is the Professor who penned this section really ignorant of

the facts, which his predecessors have so clearly set forth, in regard to the *general* deficiency of medical schools, to furnish that full and complete course of instruction, which the requirements of the age, and the advancing spirit of medical science demand? Does he not know that the competition amongst the schools has sadly lowered the standard of education, and that fears are entertained that one school admits and passes unqualified persons, "lest, to use his own language, the portal of some active rival should befound of easier access than its own?"

Why cite particular schools in which defective courses are given; in which no adequate clinical instruction is furnished; in which practical anatomy is lightly passed over, and in which a diploma is granted without that full and complete study which is required by the public voice of the whole profession; when the facts and statistics are spread out before the public, so that he "who runs may read"? The duties of the Association are not to single out particular institutions, and to hold them up to invidious distinction; but, to sustain and cherish those which, acknowledging their defects, manifest a determination to improve their means of instruction, and to co-operate with it in the noble work of elevating the standard of education, irrespective of narrow and selfish interests. Instead therefore of pleading for existing abuses, and endeavoring to make it appear that one school can give more instruction in four months and a half, than another can in six months, we would suggest that the efforts of future committees should be directed to sustain the previous action of the Association, and to advance the good cause of progress in which it has embarked.

That there has been just ground for the complaints which have been made by previous committees on this subject, we are fully convinced; and we cannot but regret that after three elaborate and high-toned reports upon it, in which a more elevated ground has been assumed, calculated to incite our medical teachers to high and noble effort in the responsible position which they have assumed, that the paper before us should fall below its predecessors, and should endeavor to palliate those defects and evils which must be candidly exposed and acknowledged before a remedy can be applied.

To show the effect produced upon the minds of our transatlan-

tic brethren, by the revelations of former committees upon this subject, it may not be inappropriate to introduce here a brief notice of the reports upon Medical Education, introduced into a review of our transactions, which appears in the British and Foreign Medico-Chirurgical Review, for Oct., 1850, with the remark, that although something is to be allowed for the ignorance of the profession abroad, in regard to the actual state of medical knowledge in this country, yet there is, in the main, much reason for the strictures contained in the following extract:

Reports of the Committees on Medical Education.—This is properly deemed, by a body of enlightened men, having the elevation of the *status* and increase of the utility of their profession at heart, as the most vitally important subject that can engage attention. We were not prepared for some of the disclosures here made, and certainly feel somewhat more reconciled to the delays which have taken place in the reform of our own institutions, after contemplating the infinitely worse condition of those of our neighbours. We will summarily indicate the chief defects:—1. The Student commencing attendance on lectures is not required to give any proof of preliminary education. 2. The courses of lectures are only of three or four months duration for two years, the various subjects, too, being treated of, not successively, but simultaneously; 3. Medical colleges obtain charters with great ease in the different States, and there are already thirty-eight such institutions, invested with the double power, of teaching and conferring the degree of M.D. A fierce competition prevails among these bodies, and various inducements are held out to students by some of them, such as low prices and long credit, in order to swell the number of their pupils. 4. Not only is the duration of the session ludicrously short, but several subjects are ill-taught, and others not taught at all. Thus, practical chemistry and pharmacy meet with little favor; while in few of the institutions are lectures delivered on botany, or on comparative or pathological anatomy; and practical anatomy itself is so neglected, that some of the colleges announce in their circulars, attention to it will not be made obligatory! The number of professors engaged in teaching in the European schools is more than double that employed in the American ones, and sometimes four or five times as great. 5. Hospital attendance seldom forms any portion of the system of instruction, and the reporters say, that even in large cities like New York and Philadelphia, not more than one in ten of the pupils attend regularly at the hospital. Moreover, in most of the colleges all attempt at such teaching is eschewed, and a wretched substitute called "College Clinics" resorted to, at which, perhaps, the pupil may see the same patient but once or twice, when he comes for advice. 6. The system of examination is bad; for the professors examine their own pupils, and decide upon their admissibility. In some of the institutions these examinations are quite private, each professor testing the capabilities of the candidate alone and

apart from his colleagues. "Three out of seven, or two out of six, negative votes are usually considered necessary for rejection. Thus a candidate may be wholly unprepared in one or two of the most important branches—anatomy and surgery for instance—and yet receive his degree!" Lastly, if a pupil finds himself unable to undergo even such an ordeal as this, he need not despair, but may at once set himself up as doctor, only two or three of the States imposing any examination, or even any education at all, as a necessary preliminary to practice.

Mortifying as it may be to our national pride, to see American schools thus held up to reproach in the pages of one of the first medical periodicals of the times, it is impossible to escape from the position in which our own acknowledged defects have placed us; and, unless we expect tamely to fall back in the race for scientific distinction in which other nations are engaged, we must raise the tone of our professional education and literature. Instead of apologizing for existing evils as incident to our political system, and to the habits and genius of our people, we must join hands in strenuous and persevering efforts, to advance American medicine to that high point of excellence and utility of which it is as susceptible here, as in any other portion of the world.

That the American Medical Association may not relax its efforts in this good work, is the strong desire of the friends of medical progress both here and abroad. And that it is not yet prepared to do so, was, we think, fully verified by the general feeling of disappointment which pervaded the Association, on the reading of the report before us, as well as by the fact that it appears before the profession with the name of the chairman of the committee alone; two of the members, who were present at Cincinnati, Drs. Blatchford and Roberts, publicly dissenting from its conclusions, and declining to append their names to it.

(To be continued.)

Woman; her Diseases and Remedies. A series of Letters to his Class. By CHARLES D. MEIGS, M. D., Professor of Midwifery, &c., in the Jefferson Medical College at Philadelphia, &c., &c. *Second edition, revised and enlarged.* Philadelphia, Lea & Blanchard, 1851.

The first edition of Dr. Meigs' work on Woman and her Diseases, was noticed at some length in the Examiner for January,

1848. Of this second edition, "revised and enlarged," we have here only to repeat the favorable opinion previously expressed of its general bearing and value, referring our readers to the more detailed comments upon some of the author's peculiarities of style and doctrine which were then indulged in. The early demand for another edition attests the popularity of the book, and seems to leave no longer doubtful Dr. Meigs' anticipation, that the familiar and vivacious style of treating medical subjects, which he has adopted—however critics may carp—is likely to "prove agreeable to the brethren, so as to meet their approbation."

A Chart of the Signs furnished by Auscultation and Percussion, and of their Application to the Diagnosis of Diseases of the Lungs.

A Chart of the Signs furnished by Auscultation and Percussion, and of their Application to the Diagnosis of Diseases of the Heart. Revised and arranged by P. CLAIBORNE GOOCH, A. M. M. D., etc. *From the French of* O. BELLINGHAM, M. D. P. Richmond, Va. Morris & Bro.

In these two charts we have a bird's eye view of the physical signs and their causes, as they occur in the physiological and pathological conditions of the thoracic viscera, together with observations upon them.

In casting our eyes over them we have been pleased with the plan of arrangement, and only wonder that it has not occurred to others before to construct such an exposition of these subjects for office reference. There are a few points, however, in which we differ, and think the American editor might have improved upon the original; for instance: In explaining the cause of the crepitant râle in pneumonia, the author describes it as produced "by the passage of air, in inspiration, through a muco-sanguinolent liquid secreted in the air cells and minute bronchial tubes." We know that for this there is high authority, but it has nevertheless, always seemed to us that the explanation of Dr. Carr, of New York, was more satisfactory. This observer ascribes it to the separation of the inner surfaces of the air vesicles, which had become adherent to each other during expiration, in consequence

of the viscid, but scarcely *fluid* secretion, with which their interior is lined. This view seems confirmed by the observations of Messrs. Rainey and Hutchinson, by whom it is shown that each bronchial tube terminates in a cluster of cells, instead of a single vesicle, as described by Reiseissen. This explanation of the cause, however, does not detract from the value of the sign as a means of diagnosis.

There are one or two points of expression which we think might also be improved by substituting others; for instance, metallic *tinkling*, for metallic *tingling;* the word *nipple*, instead of teat, &c., &c. These will doubtless meet the eye of the translator in preparing a new edition. The text of the author is very fairly rendered.

The Charts, it should be mentioned, are made up from the works of Laennec, Williams, Barth & Roger, Gerhard, Spittal, and other high authorities, and we have no question but that they will prove very acceptable, as well as useful to the profession.

The Family and Ship Medicine Chest Companion: being a compendium of Domestic Medicine, Surgery, and Materia Medica, with Directions for the Diet and Management of the Sick Room, &c., &c. Selected from standard works by a PRACTISING PHYSICIAN. Philadelphia, Lindsay & Blakiston, 1851.

We have so often expressed our opinion of the tendency of the unrestricted circulation of *household* works on medicine, that it is unnecessary here to reiterate it. Under many circumstances, however, where medical aid is beyond reach, such books are undoubtedly desirable and useful, and we have great pleasure in recommending this little manual as an excellent work of the kind. The publishers very properly represent "the object of the work to be, to afford assistance to those who are removed from medical or surgical aid, but *in no way* to delegate the treatment and care of the sick to the inexperienced, when other assistance can be obtained."

THE MEDICAL EXAMINER.

PHILADELPHIA, JANUARY, 1851.

TO OUR READERS.

In presenting our readers with the first number of the fourteenth volume of the Medical Examiner, we take great pleasure in announcing that hereafter the editorial department will have the valuable assistance of Dr. John B. Biddle, the originator and first editor of this journal. To most of our readers he is well known, especially to those who have been recipients of the Examiner from its earliest date. Under his care it was born and grew to a goodly stature, and he now returns to it once more with the same zeal that actuated him in its foundation. We congratulate ourselves as well as our readers on this change, being well satisfied that it will work to the advantage of all concerned.

We shall aim, hereafter, to devote an increase of space and attention to our clinical department. This journal is, we believe, the only one in the country, not of very recent date, that has ever systematically attempted to present reports of cliniques, and of hospital and clinical lectures, and we believe that it has always proved an agreeable and interesting feature to our readers. Our arrangements for the future will place at our disposal regular reports of the proceedings of the schools and hospitals of Philadelphia in this particular. It is not our intention, however, to overburthen our columns with a fatiguing detail of trivial and every-day cases, but we shall endeavor to make such a selection from the ample supply of materials, which the metropolis of American medicine is constantly offering, as to present a faithful reflection of its clinical practice, wherever novelty and importance of treatment and cases may claim notice.

It will be found that the cliniques of the two large schools furnish no inconsiderable proportion of our reports. We are aware that, in some quarters, these cliniques have been in disfavor, from an impression that they are designed to take the place of genuine hospital instruction, for which they are certainly not to be considered a substitute. It should be noticed, however, by those who have been led to condemn this method of instruction, that confessedly inferior as it is to the daily minute observation of disease, which is only to be practised by the bedside in the wards of a well regulated hospital, it is really hardly different in character from the *am-*

phitheatrical lectures delivered in these institutions. True clinical instruction can be given only to classes of some half dozen or dozen at the bedside, a plan everywhere incompatible with the size of the winter classes here. And when it is borne in mind that a narrow feeling on the part of the managers of our Alms House has closed its fine hospital as a means of study, we think it is unfair to undervalue the college cliniques, where a vast and interesting mass of disease is collected and turned to account, which, but for them, would for the most part be lost to science. In an ethical point of view, the cliniques are perhaps assailable as a source of indiscriminate gratuitous medical service. But we have at present only to do with their scientific and educational bearing.

The original, bibliographical, and foreign departments of the Examiner will claim no less of the editors' attention than heretofore, and they will endeavor still to maintain its reputation for candor and impartiality; sparing no pains to make it in every respect a "Record of Medical Science," worthy of the highly intelligent and respectable list of readers who have so long honored it with their support.

ON THE USE OF TOBACCO.

We have received a communication from Dr. P. C. SUTPHIN, of Bedford county, Virginia, on the "Influence of Tobacco on the Human System," which we regret that the pressure on our columns at present, obliges us to defer publishing in extenso. Dr. SUTPHIN's attention was led to the topic by an article, which appeared in the Examiner for October last, on the pernicious effects arising from habitual indulgence in the use of tobacco. As the result of considerable experience in the tobacco-growing region of Virginia, where its use is almost universal, "and generally to excess," Dr. SUTPHIN is of opinion that it has no appreciable influence in the development of diseases of the heart or stomach. "It is but seldom we are called upon," he says, "to treat heart diseases, and when we are, we can generally trace their origin to an attack of rheumatism, or some other cause distinct from tobacco. Dyspepsia and other diseases, enumerated in the article which appeared in the October number of the Examiner, are not more common amongst those who use tobacco, than amongst those who do not. Any unprejudiced physician acquainted with these facts, will corroborate the statements made here. Dyspepsia and heart diseases are almost unknown among our negroes, who use a great quantity of tobacco. I have known vast numbers of negroes to chew and smoke almost incessantly, and nevertheless enjoy the greatest possible health."

Testimony like this—from so respectable and well-informed a quarter—certainly goes far to shake the belief, which we take to be general, in the injurious tendency of constant and excessive indulgence in tobacco. "When employed in excess," says Dr. Wood, in the U. S. Dispensatory, "it enfeebles the digestive powers, produces emaciation and general debility, and lays the foundation of serious disorders of the nervous system," and Dr. Chapman "has met with several instances of mental disorder closely resembling delirium tremens, which resulted from its abuse, and which subsided in a few days after it had been abandoned." This is the impression generally of writers on the materia medica. That an article, the effects of which on persons unaccustomed to its use, are so powerful—especially *on the functions of the stomach and heart*—should find in the human system an adaptability to its action, entirely counteracting its original noxious influence, is not a little remarkable, particularly with our experience of the results of the abuse of opium and alcoholic stimuli.

We must allow, however, that the facts elicited from our correspondent, deserve great weight—not only from his necessarily extended familiarity with the effects of the use of tobacco, but also from his favorable position for observing them, independently of the many causes of gastric and cardiac disorder, which are to be found in large cities. For it may be, that tobacco has been unjustly charged with consequences pernicious to the health, which are really, in the main, traceable to the mental excitement and sedentary habits of town life. We should be glad to hear from others of our readers in the tobacco districts, and, indeed, from any who may have positive facts to communicate on the subject.

The length of the original communications in this number, with the mass of clinical matter which has accumulated on our hands, has obliged us somewhat to encroach upon the space usually allotted to our 'Record of Medical Science.' We shall not, however, allow this interesting department of the journal to be permanently abridged—but shall aim to present hereafter, each month, to our readers, a carefully collated and full retrospect of the improvements and discoveries in the different branches of medicine.

MONUMENT TO JENNER.

We learn with pleasure from the British journals, that a bronze statue of JENNER is to be placed in the open air, in some situation in London. Mr. Marshall, the eminent sculptor, who has received the original bust of Jenner from Dr. Baron, is going on with a cast of the intended monument, which he expects to finish, so as to place it in the great exhibition of 1851; and he hopes to complete the work in bronze in 1852.

TO THE MEDICAL PROFESSION.

The undersigned, Chairman of the Standing Committee on *Practical Medicine*, appointed by the American Medical Association, May, 1850, respectfully solicits the co-operation of the members of the Medical Profession, in furnishing materials for the Annual Report in May, 1851. The duty of this Committee, as defined by the Constitution of the Association, is to "prepare an Annual Report on the more important improvements effected in this country in the management of individual diseases; and on the progress of Epidemics; referring, as occasion requires, to medical topography, and to the character of prevailing diseases in special localities, or in the United States generally, during the term of their service." In order to fulfil the objects thus expressed, the requisite data must be supplied by medical practitioners in different sections of the Union. This is more particularly true with reference to the "*progress of epidemics*," and "*the character of prevailing diseases in special localities.*" Communications, therefore, are particularly desired from persons residing in places in which Epidemics have prevailed, or in which prevailing diseases have been marked by special characters during the present year. Epidemic Cholera and Dysentery are known to have prevailed more or less extensively in different parts of the country during the past summer. Facts bearing upon the features peculiar to the present season, the production, diffusion, mortality, treatment, etc., of these diseases will be acceptable. It is requested that communications upon these or any of the subjects coming under the cognizance of the Committee, be transmitted to the undersigned, by the first of March, 1851.

All contributions with which the Committee may be favored, will receive due attention and acknowledgment

AUSTIN FLINT.

Buffalo, New York, Nov., 1850.

Editors of Medical Journals will confer a favor by copying the above.

RECORD OF MEDICAL SCIENCE.

MATERIA MEDICA AND THERAPEUTICS.

New Antiperiodics.—The French medical world has been lately on the *qui vive*, on the subject of antiperiodics, stimulated by a prize of 4,000 francs, offered by the Society of Pharmacy, for the discovery of a substitute for Quinine, and to which the French Minister of war has offered to add an equal sum. M. Delioux, Professor of Materia Medica, at Rochefort, maintains that CHLOROFORM is a powerful succedaneum for cinchona and arsenic. A sufficient number of cases of periodic fevers, which are

very common at Rochefort, were treated at the hospital there, with chloroform, and with such a regularity of success, that M. Delioux feels warranted in recommending it as a powerful antiperiodic. The chloroform was given in doses of from nine to thirty grains, according to the severity of the case. The patients took it several times before the access, and continued its use for several days. To make a good mixture, the chloroform is to be first rubbed up with syrup, and then it mixes readily with water. —*Journal de Med. et Chirur. Prat., July*, 1850.

The Physalis Alkekengi, or winter-cherry of France, is also proposed as a remedy for intermittents. The whole plant, twigs, leaves, capsules and berries, are described as possessing the anti-periodic qualities of cinchona—*Gaz. Méd., July*, 1850.

Acetate of Potash in some Diseases of the Skin.—Dr. Easton, of Glasgow, having been led by the publication of Dr. Golding Bird's Lectures, to employ Acetate of Potash, in some diseases of the skin, has published the results at which he has arrived, in an important practical paper, in the Edinburgh Monthly Journal, for May, 1850. Several cases are given, of Psoriasis Diffusa, Eczema Impetiginodes, Eczema Rubrum, Psoriasis Palmaris, Lepra Vulgaris, &c., which were rapidly cured under the use of the Acetate of Potash, with no other assistance than occasionally the alkaline warm bath, and fomentation of the affected extremities, with blood-letting, in one febrile case, and a catharto-diuretic mixture in another. Half a drachm of the medicine, thrice daily, is the dose for an adult.

Dr. Easton considers the medicine to act: 1. As a Diuretic, as its use was always followed by a great increase in the amount of urine. 2. Not only is the amount of the *water* of the urine increased, but also its solid constituents in so remarkable a degree, as to entitle it to be considered as a renal-alterative or blood-depurant, as well as a renal-hydragogue. 3. Like all the salts of the vegetable acids, it is converted in its progress through the system, into a carbonate, and to this conversion substantially its benefit is owing. But the administration of the carbonate itself does not produce the effects which follow the use of the acetate. Hence Dr. Easton infers that the physiological action and therapeutic efficacy of the acetate are connected in some manner—unknown at present—with the metamorphosis which takes place in itself.

Poisoning with Secale Cornutum.—Dr. Pratschke was called on the 12th October, 1844, to a woman who, with her three children, had been taken ill the day before. Five days previously they had eaten bread which contained a large proportion of blighted corn. The mother, forty years of age, complained of uneasiness and heaviness in the head, oppression at the stomach, loss of appetite, and diarrhœa; but she did not feel ill enough to take to her bed. The eldest daughter, eighteen years of age, complained of a violent sense of burning in the hands and feet, and especially in the fingers and toes, which were bent and stiff. The lips were retracted so as to expose the teeth; the tongue white and moist; the

skin dry and cool; the pulse 90, and small: the patient was very restless, and expressed urgent thirst; the abdomen was soft; the bowels acting; the urine pale. She died on the following day in violent convulsions.

The second daughter, seven years old, had the same affection of the lower extremities, which in her case occurred periodically: her appetite was good: she had also diarrhœa.

The third child, four years old, suffered only from diarrhœa.

An emetic was given to all in the first place; camphor was afterwards administered.

The mother suffered for a few days from tetanic cramps, and continued to complain of great anxiety, loss of appetite, and diarrhœa. After the exhibition of valerian, muriate of ammonia, and ipecacuanha, followed by extract of nux vomica, these symptoms disappeared, but were succeeded by anesthesia of the soles of the feet.

The second daughter was restored to health, with the exception that she had not recovered the use of her legs.

The youngest child suffered from tetanic cramps for several days; and considerable stiffness of the limbs remained, so that she frequently fell in walking. This subsided under the use of aromatic baths.—*Lond. Med. Gaz., from Casper's Wochenschrift.*

Poisoning with Dulcamara. By Dr. Plaetschke.—A man 40 years of age, who was using decoction of dulcamara-stalks for a cough, took, one forenoon, from three to four quarts prepared from a peck of the stalks. In the evening he was suddenly seized with numbness in his limbs, and pains in the knees and elbows, dryness of the throat, and paralysis of the tongue. These symptoms increased so much in the course of three or four hours, that he could scarcely move either his limbs or tongue. The head remained unaffected, consciousness unimpared, the pulse quiet, but small and rather hard, breathing regular, the skin cool; there was neither nausea nor vomiting. From the time which had elapsed since taking the decoction, the administration of emetics was contra-indicated; recourse was therefore had to stimulants. Camphor was given freely, and the symptoms gradually disappeared.—*Lond. Med. Gaz. from Casper's Wochenschrift.*

Sudden Death from the long-continued use of Carbonate of Soda.—Dr. Tunstall, of the Bath Dispensary, reports in the London Medical Times, November 30, 1850, a case of very sudden death, traceable to the abuse of alkalies. The subject, a tall muscular man, 53 years old, of temperate habits, dropped down dead in the streets of Bath. About eighteen years since he first began to complain of severe dyspepsia, for which he was advised to take a small quantity of the bicarbonate of soda; when necessary, this quantity he had gradually increased until he took half a hundred weight yearly, or rather more than two ounces daily, for sixteen years. During this period he had two severe and long continued fits, the last five years since, when he remained cold, insensible, and passive, for nearly thirty minutes. He had been travelling for twenty-four hours previously to his death by a stage wagon, had alighted for the pur-

pose of inquiring his way, and, while in the act of speaking to his daughter, fell dead. He had dined five hours before, and had drunk half a pint only of beer; had taken several doses of soda on the road, more than a pound of which was found in his pocket when the body was searched.

A post-mortem examination was obtained only of the abdominal cavity. The following is the account of it:—Externally the body was blanched, and upon making an incision little cellular or adipose tissue was met with; the muscles were pallid, resembling veal after bleeding; upon opening the abdomen the stomach was discovered enlarged to twice its natural size, occupying the whole of the superior third of the abdominal cavity; its peritoneal surface was covered with reticulated blood vessels, and a bright brick-red blush, commencing with the cardiac extremity, extended over one-third of its surface. Upon opening it the whole mucous membrane was found disintegrated and pulpy. Numerous ulcerations, varying in size from a pea to a large bean, were scattered throughout, so that its first appearance was like that of a polished tortoise shell. During its removal from the body, which was carefully done by Mr. Goldstone, its coats gave away to the extent of three inches, leaving a rough edge; the stomach contained half a pint of a strong acid fluid, with portions of meat in a partially digested condition; the small intestines presented similar appearances to those found in the stomach, and there was little or no fat in the omentum.

The liver was contracted in size and consolidated, as was the spleen.

Dr. Tunstall was inclined, he says, at the first view, to believe that it had arisen from nervous apoplexy, but this idea was negatived by the fact, that up to the moment of his death he had been in conversation with his daughters, and that death was instantaneous and complete; there was no evidence of a rupture of the heart or great vessels, for I counted three distinct pulsations under my hand; so that I think we may safely affirm that the fatal attack was one of syncope, produced by the attenuation of the circulating mass by the long continued use of the alkali.

That a great analogy exists between the effects of long-continued alkaline remedies and scurvy is well pointed out in Pereira's "Elements of Materia Medica," where, speaking of liquor potassæ, he says, "it appears in the highest degree probable, that scurvy, and the effects caused by the long-continued employment of the alkalies, are analogous conditions of system.

Carbonate of soda has, within the last few years, become almost an established article of diet of daily consumption in our tea, and for the purpose of neutralizing the acidity of malt liquors; so that, apart from the curiosity excited by the present case, I am anxious that its relation should have a practical importance; that it may be taken with supposed impunity, in large doses, for a period of sixteen years, the present case testifies. We have a laborious artisan, never complaining of severe illness, taking what he supposed to be an innocent remedy for dyspepsia, and who, no doubt, had he complained of illness, would not have thought it of sufficient importance to mention, as his daughter did at the inquest, until Mr. Goldstone suggested the question to the Coroner.